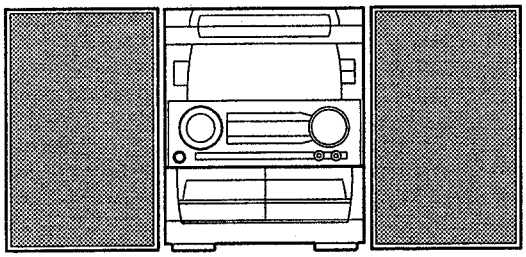
aiwa

aiwa SERVICE

NSX-A909
NSX-S909
NSX-S910



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 YPR4N
- BASIC CD MECHANISM : 4ZG–1 Z3DSHNM, Z4SHMD
- TYPE : 909(U,LH), 910LH

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-A909	CX-NA909 (TYPE : U)	SX–WNA909	RC - 7AS08
NSX-S909	CX-NS909 (TYPE : LH)	SX–WNS909	
NSX-S910	CX-NS910 (TYPE : LH)	SX–WNS909 SX-R285	

- If requiring information about the CD mechanism, see Service Manual of 4ZG-1, S/M Code No. 09-983-249-3OT.

SERVICE MANUAL

S/M Code No. 09–984–250–1FE

TABLE OF CONTENTS

SPECIFICATIONS 3
NOTE ON BEFORE STARTING REPAIR 4, 5
PROTECTION OF EYES FROM LASER BEAM DURING SERVICING 6
PRECAUTION TO REPLACE OPTICAL BLOCK 6
ELECTRICAL MAIN PARTS LIST ..... 7 ~ 11
TRANSISTOR ILLUSTRATION 12
BLOCK DIAGRAM (MAIN / FRONT) 13, 14
WIRING – 1 (MAIN) 15, 16
SCHEMATIC DIAGRAM – 1 (MAIN 1/2) ..... 17 ~ 19
SCHEMATIC DIAGRAM – 2 (FRONT) ..... 20 ~ 22
WIRING – 2 (FRONT) 23, 24
WIRING – 3 (HI-AMP) 25, 26
SCHEMATIC DIAGRAM – 3 (HI-AMP) 27, 28
WIRING – 4 (AC1 / AC2) 29
SCHEMATIC DIAGRAM – 4 (TUNER FRONT END) 30
SCHEMATIC DIAGRAM – 5 (MAIN 2/2) 31, 32
WIRING – 5 (DECK) 33
FL GRID ASSIGNMENT & ANODE CONNECTION 34, 35
ADJUSTMENT <TUNER / DECK> 36, 37
PRACTICAL SERVICE FIGURE 38
IC DESCRIPTION 39, 40
IC BLOCK DIAGRAM ..... 41 ~ 46
MECHANICAL EXPLODED VIEW 1 / 1 ..... 47, 48
MECHANICAL PARTS LIST 1 / 1 49
TAPE MECHANISM EXPLODED VIEW 1 / 1 ..... 50, 51
TAPE MECHANISM PARTS LIST 1 / 1 52
SPRING APPLICATION POSITION 53
SPEAKER DISASSEMBLY INSTRUCTIONS 54
SPEAKER PARTS LIST 55
ACCESSORIES / PACKAGE LIST 55
REFERENCE NAME LIST 56

SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<Amplifier section>

Mid-high frequency amplifier

Power output	U : 30 W + 30 W (200 Hz - 20 kHz, T.H.D. less than 1%, 6 ohms) LH : 40 W + 40 W (1 kHz, T.H.D.10%, 6 ohms)
Total harmonic distortion	0.1% (17 W, 1 kHz, 6 ohms, DIN AUDIO)

Low-high frequency amplifier

Power output	U : 80 W + 80 W (20 Hz - 200 Hz, T.H.D. less than 1%, 6 ohms) LH : 140 W + 140 W (70 Hz, T.H.D. 10%, 6 ohms)
Total harmonic distortion	0.1% (70 W, 70 Hz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 210 mV(adjustable) MD : 210mV (adjustable) MIC1, MIC2 : 1.4mV (10 kohms)
Outputs	LINE OUT: 280mV SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 8 ohms to 16 ohms PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape : 50 Hz – 16000 Hz Normal tape : 50 Hz – 15000 Hz
Signal-to-noise ratio	60 dB (Dobly B NR ON, CrO_2 tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback head x 1/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–WNA909 (For NSX-A909)>

Cabinet type	4 way, subwoofer (magnetic shielded type)
Speakers	Subwoofer : 200 mm ($7^7/_8$ in.) cone type Woofer : 120 mm ($4^3/_4$ in.) cone type Tweeter : 60 mm ($2^3/_8$ in.) ceramic type Super tweeter: 20 mm ($^{13}/_{16}$ in.) ceramic type
Impedance	6 ohms / 6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	240 x 324 x 330mm ($9^1/_2$ X $12^7/_8$ X 13 in.)
Weight	6 kg (13 lbs 4 oz.)

<Speaker system SX–WNS909 (For NSX-S909, NSX-S910)>

Cabinet type	4 way, subwoofer (magnetic shielded type)
Speakers	Subwoofer : 200 mm cone type Woofer : 120 mm cone type Tweeter : 60 mm ceramic type Super tweeter: 20 mm ceramic type
Impedance	6 ohms / 6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	240 x 324 x 330 mm
Weight	6 kg

<General>

Power requirements	U : 120 V AC, 60 Hz LH : 120 V/220-230 V/240 V AC (switchable), 50/60 Hz
Power consumption	U : 140 W LH : 215 W
Dimensions of main unit	260 x 329 x 369 mm ($10^1/_4$ X 13 X $14^5/_8$ in.)
Weight	U : 9.8 kg (21 lbs 10 oz.) LH : 10.9 kg

- Design and specifications are subject to change without notice.

- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, the secondary defect can occur.
In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

① Remove the AC power cord.
② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connector the other end of the lead wire to metal chassis.
③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
⑤ Check that voltage across C101 and C102 has decreased 1 V or less using a multimeter or an oscilloscope.

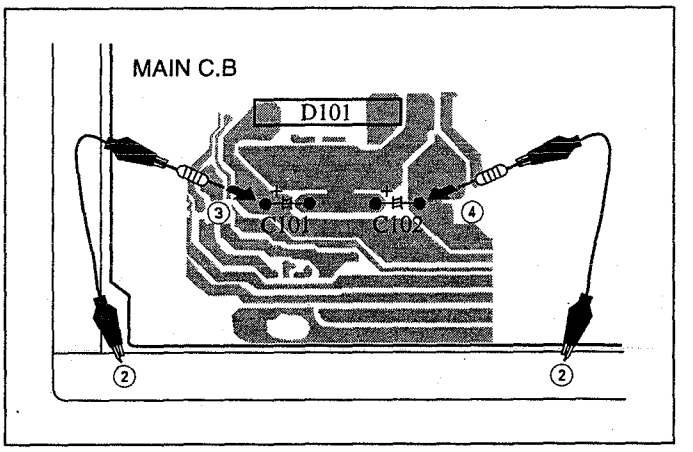


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor (Ω)	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitor on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is "H", the MICROCOMPUTER is judged to be operating correctly. When this terminal is "L", the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.
When the MICROCOMPUTER is not defective, the HOLD terminal can also go "L" when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to "L".

- Good or no good judgment of the MICROCOMPUTER

① Turn on the AC main power.
② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the "H" level or not.
③ When the HOLD terminal is "L" level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

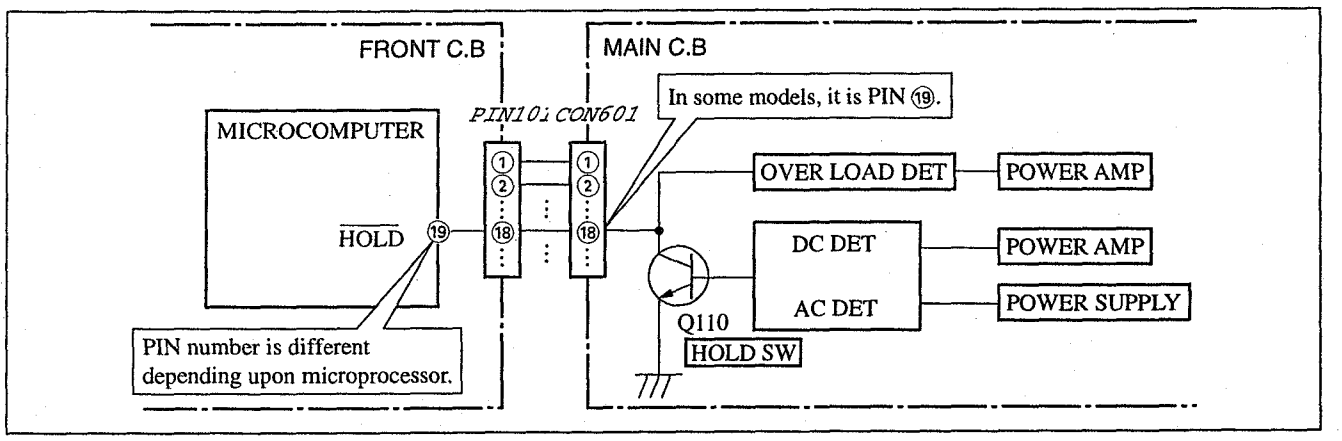


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.
When the above described phenomenon occurs, it can leads to wrong judgment as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

① Remove the AC power cord.

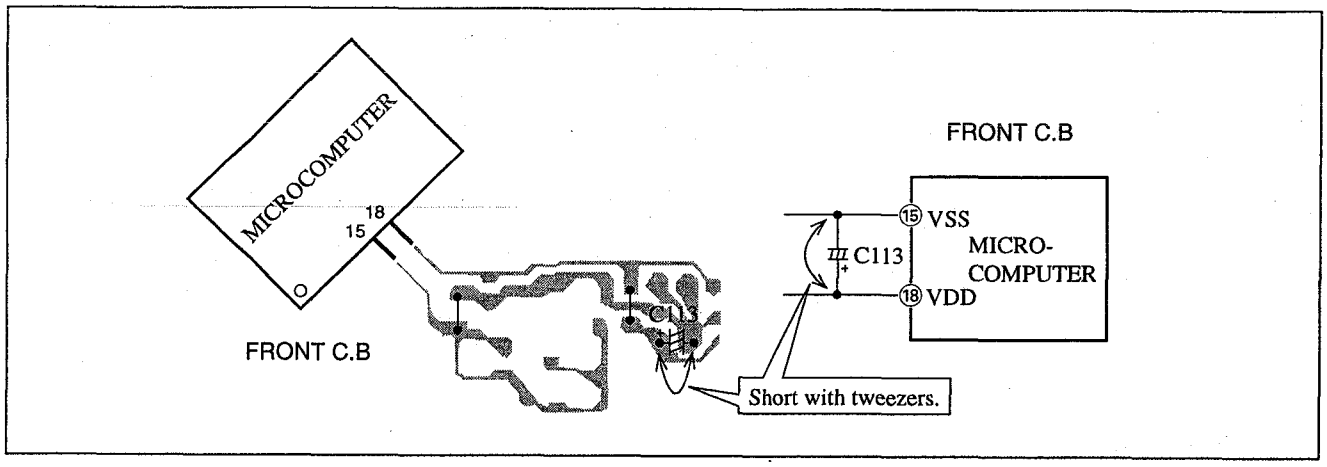


Fig-2-2

② Short the both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

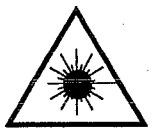
2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

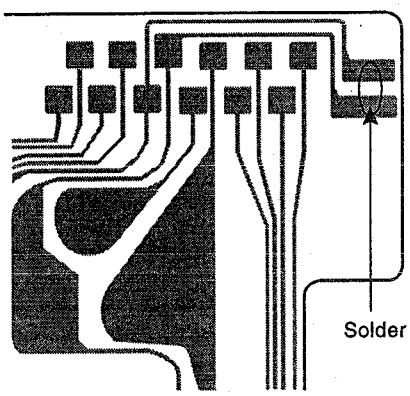
Precaution to replace Optical block

(KSS – 213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.

PICK-UP Assy P.C.B



ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	88-NF5-615-040		C-IC,MSM6654A-521GS-KR1
	88-NF7-690-010		C-IC,LC866560W-5G73
	87-070-083-010		IC,GP1U281X
	87-A20-783-040		C-IC,BA7762AFS
	87-A20-083-010		IC,BA3835S
	87-017-914-010		IC,BU4094BCP
	87-A20-804-040		C-IC,NJM2152M
	87-017-915-080		IC,BU4094BCF
	87-A20-613-040		C-IC,BU9262AFS
	87-A20-954-040		C-IC,M62445FP-601
	87-017-888-080		IC,NJM4558MD
	86-NFZ-655-010		IC,LC72131D(Z)
	87-A20-438-010		IC,LA1837
	87-020-454-010		IC,DN6851
	87-A20-355-010		IC,CXA1553P
	87-070-289-040		C-IC,BU2092F
TRANSISTOR			
	87-A30-087-080		C-FET,2SK2158
	89-213-702-010		TR,2SB1370 (1.8W)
	87-026-263-080		C-TR,RN1410
	87-A30-071-080		C-TR,RT1N 144C
	87-026-610-080		TR,KTC3198GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-196-080		TR,2SC4115SRS
	87-A30-075-080		C-TR,2SA1235F
	87-026-609-080		TR,KTA1266GR
	87-A30-107-070		C-TR,CMBT5401
	87-A30-190-080		TR,CC5551
	87-A30-137-010		TR,2SD2494
	87-A30-097-010		TR,FN 1016<LH>
	87-A30-138-010		TR,2SB1625
	87-A30-098-010		TR,FP 1016<LH>
	87-A30-106-070		C-TR,CMBT5551
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-074-080		C-TR,RT1P 141C
	87-026-232-080		C-TR,DTA 144WK
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-105-080		C-TR,RT1P 441C
	87-A30-086-070		C-TR,CSD1306E
	89-112-965-080		TR,2SA1296 (0.75W)
	87-A30-085-070		C-TR,CSA1362GR
	89-327-143-080		TR,2SC2714 (0.1W)
	87-026-463-080		TR,2SA933SRS
	87-A30-162-010		FET,2SK2937
	87-A30-108-010		TR,2SB1626<U>
	87-A30-109-010		TR,2SD2495<U>
	87-026-580-080		C-TR,DTA123JK
DIODE			
	87-A40-470-080		DIODE,1SS254
	87-017-654-060		DIODE,GBU6JL 6131
	87-A40-269-080		C-DIODE,MC2836
	87-A40-509-080		ZENER,MTZJ6.8C
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-270-080		C-DIODE,MC2838
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-341-080		ZENER,MTZJ 36 A
	87-A40-004-080		ZENER,MTZJ16A
	87-A40-488-080		DIODE,1SS244
	87-A40-345-080		ZENER,MTZJ10C
	87-A40-184-090		DIODE,RF34<U>
	87-A40-002-080		ZENER,MTZJ5.1C
	87-A40-438-080		ZENER,MTZJ4.7A
	87-A40-234-080		ZENER,MTZJ5.6A
	87-A40-274-010		DIODE,FMB-G16L<LH>
	87-017-447-010		DIODE,GBU4DL-6419
MAIN C.B			
C101	87-016-657-090		CAP,E 3300-71<LH>
C102	87-016-657-090		CAP,E 3300-71<LH>
C103	87-016-658-090		CAP,E 4700-35 SMG
C104	87-016-658-090		CAP,E 4700-35 SMG
C105	87-012-368-080		C-CAP,S 0.1-50 F
C106	87-012-368-080		C-CAP,S 0.1-50 F
C107	87-012-368-080		C-CAP,S 0.1-50 F
C108	87-012-368-080		C-CAP,S 0.1-50 F
C109	87-010-196-080		CHIP CAPACITOR,0.1-25
C110	87-010-196-080		CHIP CAPACITOR,0.1-25
C111	87-010-196-080		CHIP CAPACITOR,0.1-25
C112	87-010-196-080		CHIP CAPACITOR,0.1-25
C113	87-010-247-080		CAP, ELECT 100-50V
C114	87-010-385-080		CAP, ELECT 220-25V
C115	87-010-385-080		CAP, ELECT 220-25V
C116	87-010-247-080		CAP, ELECT 100-50V
C117	87-010-430-080		CAP, ELECT 100-63
C118	87-010-263-080		CAP, ELECT 100-10V
C119	87-010-260-080		CAP, ELECT 47-25V
C120	87-010-403-080		CAP, ELECT 3.3-50V
C121	87-012-140-080		CAP 470P
C122	87-010-263-080		CAP, ELECT 100-10V<U>
C123	87-010-247-080		CAP, ELECT 100-50V
C124	87-010-112-080		CAP, ELECT 100-16V
C125	87-010-235-080		CAP,E 470-16 SME
C151	87-016-520-090		CAP,E 3300-65<U>
C152	87-016-520-090		CAP,E 3300-65<U>
C209	87-010-401-080		CAP, ELECT 1-50V
C210	87-010-401-080		CAP, ELECT 1-50V
C215	87-010-404-080		CAP, ELECT 4.7-50V
C216	87-010-404-080		CAP, ELECT 4.7-50V
C217	87-010-260-080		CAP, ELECT 47-25V
C218	87-010-260-080		CAP, ELECT 47-25V
C223	87-010-197-080		CAP,CHIP 0.01 DM
C224	87-010-197-080		CAP,CHIP 0.01 DM
C229	87-A10-812-080		C-CAP,S 220P-200 J CH
C230	87-A10-812-080		C-CAP,S 220P-200 J CH
C231	87-012-154-080		C-CAP,S 150P-50 CH
C232	87-012-154-080		C-CAP,S 150P-50 CH
C233	87-010-544-080		CAP, ELECT 0.1-50V
C234	87-010-544-080		CAP, ELECT 0.1-50V
C235	87-010-196-080		CHIP CAPACITOR,0.1-25
C237	87-012-368-080		C-CAP,S 0.1-50 F
C238	87-012-368-080		C-CAP,S 0.1-50 F
C239	87-012-368-080		C-CAP,S 0.1-50 F
C240	87-012-368-080		C-CAP,S 0.1-50 F
C280	87-010-182-080		C-CAP,S 2200P-50 B
C298	87-010-196-080		CHIP CAPACITOR,0.1-25
C301	87-010-318-080		C-CAP,S 47P-50 CH
C302	87-010-318-080		C-CAP,S 47P-50 CH
C303	87-012-157-080		C-CAP,S 330P-50 CH
C304	87-012-157-080		C-CAP,S 330P-50 CH
C305	87-012-145-080		CAP, CHIP S 270P CH
C306	87-012-145-080		CAP, CHIP S 270P CH
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C311	87-010-198-080		CAP, CHIP 0.022
C312	87-010-198-080		CAP, CHIP 0.022
C313	87-010-179-080		CAP,CHIP S B1200P
C314	87-010-179-080		CAP,CHIP S B1200P
C315	87-010-178-080		CHIP CAP 1000P
C316	87-010-178-080		CHIP CAP 1000P
C317	87-012-142-080		CAP,S 0.33-16
C318	87-012-142-080		CAP,S 0.33-16
C319	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C320	87-012-141-080		CHIP-CAPACITOR,0.22-16F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C321	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C322	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C324	87-010-260-080		CAP, ELECT 47-25V
C325	87-010-370-080		CAP,E 330-6.3 SME
C327	87-010-404-080		CAP, ELECT 4.7-50V
C328	87-010-404-080		CAP, ELECT 4.7-50V
C332	87-010-196-080		CHIP CAPACITOR,0.1-25
C335	87-010-401-080		CAP, ELECT 1-50V
C336	87-010-401-080		CAP, ELECT 1-50V
C337	87-010-196-080		CHIP CAPACITOR,0.1-25
C339	87-010-196-080		CHIP CAPACITOR,0.1-25
C340	87-010-196-080		CHIP CAPACITOR,0.1-25
C351	87-012-140-080		CAP 470P
C352	87-012-140-080		CAP 470P
C354	87-010-175-080		CAP 560P
C355	87-012-349-080		C-CAP,S 1000P-50 CH
C356	87-010-260-080		CAP, ELECT 47-25V
C357	87-010-197-080		CAP, CHIP 0.01 DM
C358	87-010-183-080		C-CAP,S 2700P-50 B
C359	87-010-183-080		C-CAP,S 2700P-50 B
C360	87-010-183-080		C-CAP,S 2700P-50 B
C370	87-010-196-080		CHIP CAPACITOR,0.1-25
C371	87-010-177-080		C-CAP,S 820P-50 SL
C372	87-010-177-080		C-CAP,S 820P-50 SL
C373	87-010-179-080		CAP, CHIP S B1200P
C374	87-010-179-080		CAP, CHIP S B1200P
C375	87-010-545-080		CAP, ELECT 0.22-50V
C376	87-010-545-080		CAP, ELECT 0.22-50V
C378	87-010-196-080		CHIP CAPACITOR,0.1-25
C381	87-010-197-080		CAP, CHIP 0.01 DM
C382	87-010-318-080		C-CAP,S 47P-50 CH
C383	87-010-197-080		CAP, CHIP 0.01 DM
C384	87-010-402-080		CAP, ELECT 2.2-50V
C385	87-010-184-080		CHIP CAPACITOR 3300P (K)
C386	87-010-196-080		CHIP CAPACITOR,0.1-25
C401	87-010-405-080		CAP, ELECT 10-50V
C402	87-010-405-080		CAP, ELECT 10-50V
C403	87-010-182-080		C-CAP,S 2200P-50 B
C404	87-010-182-080		C-CAP,S 2200P-50 B
C405	87-010-193-080		CHIP CAPACITOR,0.033
C406	87-010-193-080		CHIP CAPACITOR,0.033
C407	87-010-405-080		CAP, ELECT 10-50V
C408	87-010-405-080		CAP, ELECT 10-50V
C409	87-010-380-080		CAP, ELECT 47-16V
C410	87-010-380-080		CAP, ELECT 47-16V
C411	87-010-405-080		CAP, ELECT 10-50V
C412	87-010-112-080		CAP, ELECT 100-16V
C415	87-010-184-080		CHIP CAPACITOR,3300P (K)
C416	87-010-184-080		CHIP CAPACITOR,3300P (K)
C453	87-010-544-080		CAP, ELECT 0.1-50V
C454	87-010-544-080		CAP, ELECT 0.1-50V
C457	87-010-402-080		CAP, ELECT 2.2-50V
C458	87-010-402-080		CAP, ELECT 2.2-50V
C459	87-010-402-080		CAP, ELECT 2.2-50V
C460	87-010-402-080		CAP, ELECT 2.2-50V
C461	87-010-545-080		CAP, ELECT 0.22-50V
C463	87-010-402-080		CAP, ELECT 2.2-50V
C464	87-010-402-080		CAP, ELECT 2.2-50V
C516	87-010-196-080		CHIP CAPACITOR,0.1-25
C551	87-010-401-080		CAP, ELECT 1-50V<LH>
C552	87-010-263-080		CAP, ELECT 100-10V<LH>
C553	87-010-380-080		CAP, ELECT 47-16V<LH>
C601	87-010-180-080		C-CER 1500P
C602	87-010-180-080		C-CER 1500P
C613	87-016-081-080		C-CAP,S 0.1-16 RK
C614	87-016-081-080		C-CAP,S 0.1-16 RK
C619	87-010-185-080		C-CAP,S 3900P-50 B
C620	87-010-185-080		C-CAP,S 3900P-50 B
C621	87-010-401-080		CAP, ELECT 1-50V
C622	87-010-401-080		CAP, ELECT 1-50V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C625	87-010-405-080		CAP, ELECT 10-50V
C626	87-010-405-080		CAP, ELECT 10-50V
C629	87-010-405-080		CAP, ELECT 10-50V
C630	87-010-213-080		CAP, CHIP 0.015-25 KB GRM
C631	87-010-992-080		CHIP-CAP,S 0.047-25B
C632	87-010-263-080		CAP, ELECT 100-10V
C633	87-010-263-080		CAP, ELECT 100-10V
C634	87-010-196-080		CHIP CAPACITOR,0.1-25
C635	87-010-196-080		CHIP CAPACITOR,0.1-25
C636	87-010-194-080		CAP, CHIP 0.047
C637	87-010-183-080		C-CAP,S 2700P-50 B
C641	87-010-196-080		CHIP CAPACITOR,0.1-25
C667	87-010-196-080		CHIP CAPACITOR,0.1-25
C701	87-010-381-080		CAP, ELECT 330-16V
C702	87-010-404-080		CAP, ELECT 4.7-50V
C703	87-010-197-080		CAP, CHIP 0.01 DM
C704	87-010-197-080		CAP, CHIP 0.01 DM
C709	87-010-322-080		C-CAP,S 100P-50 CH
C711	87-010-263-080		CAP, ELECT 100-10V
C712	87-010-196-080		CHIP CAPACITOR,0.1-25
C713	87-010-197-080		CAP, CHIP 0.01 DM
C714	87-010-197-080		CAP, CHIP 0.01 DM
C721	87-010-312-080		C-CAP,S 15P-50 CH
C722	87-010-312-080		C-CAP,S 15P-50 CH
C723	87-010-178-080		CHIP CAP 1000P
C725	87-010-178-080		CHIP CAP 1000P
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP, ELECT 220-10V
C755	87-010-197-080		CAP, CHIP 0.01 DM
C756	87-010-197-080		CAP, CHIP 0.01 DM
C757	87-010-318-080		C-CAP,S 47P-50 CH
C758	87-010-149-080		C-CAP,S 5P-50 CH
C761	87-010-196-080		CHIP CAPACITOR,0.1-25
C762	87-010-197-080		CAP, CHIP 0.01 DM
C763	87-010-194-080		CAP, CHIP 0.047
C764	87-010-319-080		C-CAP,S 56P-50 CH
C765	87-010-197-080		CAP, CHIP 0.01 DM
C766	87-010-197-080		CAP, CHIP 0.01 DM
C767	87-010-405-080		CAP, ELECT 10-50V
C768	87-010-197-080		CAP, CHIP 0.01 DM
C769	87-010-408-080		CAP, ELECT 47-50V
C770	87-015-821-080		C-CAP 0.047
C771	87-010-407-080		CAP, ELECT 33-50V
C772	87-010-194-080		CAP, CHIP 0.047
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP, ELECT 100-10V
C775	87-010-404-080		CAP, ELECT 4.7-50V
C776	87-010-197-080		CAP, CHIP 0.01 DM
C777	87-010-400-080		CAP, ELECT 0.47-50V
C778	87-010-401-080		CAP, ELECT 1-50V
C779	87-010-401-080		CAP, ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP, ELECT 10-50V
C782	87-010-405-080		CAP, ELECT 10-50V
C783	87-015-819-080		CAPACITOR,0.01
C784	87-010-197-080		CAP, CHIP 0.01 DM
C785	87-010-403-080		CAP, ELECT 3.3-50V
C786	87-010-403-080		CAP, ELECT 3.3-50V
C787	87-010-184-080		CHIP CAPACITOR,3300P (K)
C788	87-010-184-080		CHIP CAPACITOR,3300P (K)
C789	87-010-179-080		CAP,CHIP S B1200P
C790	87-010-179-080		CAP,CHIP S B1200P
C791	87-010-405-080		CAP, ELECT 10-50V
C793	87-010-177-080		C-CAP,S 820P-50 SL
C794	87-010-406-080		CAP, ELECT 22-50
C795	87-010-596-080		CAP, S 0.047-16
C796	87-010-403-080		CAP, ELECT 3.3-50V
C797	87-010-182-080		C-CAP,S 2200P-50 B
C798	87-010-182-080		C-CAP,S 2200P-50 B
C799	87-010-194-080		CAP, CHIP 0.047

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C812	87-010-197-080		CAP, CHIP 0.01 DM
C814	87-010-197-080		CAP, CHIP 0.01 DM
C820	87-010-408-080		CAP, ELECT 47-50V
C821	87-010-197-080		CAP, CHIP 0.01 DM
C822	87-010-197-080		CAP, CHIP 0.01 DM
C823	87-010-197-080		CAP, CHIP 0.01 DM
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-010-152-080		C-CAP,S 8P-50 CH
CF801	87-008-261-010		FILTER, SFE10.7MA5-A
CF802	87-008-261-010		FILTER, SFE10.7MA5-A
FB601	87-A50-190-080		C-COIL,S BLM21A102S
FC451	88-905-361-110		FF-CABLE,5P 1.25 360MM
FC602	85-NF5-617-010		FF-CABLE,6P 1.25
FFE801	A8-8ZA-190-030		8ZA-1 FEUNM
J211	87-A60-483-010		JACK,DIA6.3 BLK ST W/S KM
J203	87-033-240-010		TERMINAL,SP 4P32SV1-05
J601	87-A60-402-010		JACK,PIN 6P R/W HSP-246V30
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85K BIAS
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450 (TOK)
L781	87-005-847-080		COIL,2.2UH(CECS)
L791	87-A50-209-010		COIL,1 POLE MPX (MIT)
L792	87-A50-209-010		COIL,1 POLE MPX (MIT)
L832	86-NFZ-694-080		COIL,2.2UH K CECS
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)
M451	87-A90-796-010		FAN,F614R-12MC-15-30MM<LH>
R123	87-022-200-080		RESISTOR, METAL 0.56 1W<U>
R237	87-A00-262-080		RES,M/F 0.15-2W J
R238	87-A00-262-080		RES,M/F 0.15-2W J
R239	87-A00-262-080		RES,M/F 0.15-2W J
R240	87-A00-262-080		RES,M/F 0.15-2W J
RY101	87-045-389-010		RELAY, 12V OSA-SS-212 DM5
SFR301	87-A90-557-080		SFR,33K H HOKU
SFR302	87-A90-557-080		SFR,33K H HOKU
SFR303	87-A90-557-080		SFR,33K H HOKU
SFR304	87-A90-557-080		SFR,33K H HOKU
SFR305	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR306	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR351	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR352	87-A90-433-080		SFR,50K H NVZ6TLTA
TH201	87-A90-221-080		C-THMS,100K<LH>
TH202	87-A90-221-080		C-THMS,100K<LH>
W104	85-NF5-628-010		F-CABLE 7P-2.5
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

FRONT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C101	87-010-263-040		CAP,E 100-10
C102	87-010-196-080		CHIP CAPACITOR,0.1-25
C103	87-010-196-080		CHIP CAPACITOR,0.1-25
C104	87-010-494-040		CAP,E 1-50 GAS
C105	87-010-178-080		CHIP CAP 1000P
C106	87-A10-189-040		CAP,E 220-10
C107	87-010-197-080		CAP, CHIP 0.01 DM
C108	87-010-196-080		CHIP CAPACITOR,0.1-25
C109	87-010-194-080		CAP, CHIP 0.047
C110	87-012-157-080		C-CAP,S 330P-50 CH
C111	87-010-320-080		CHIP CAP 68P
C112	87-010-312-080		C-CAP,S 15P-50 CH
C113	87-010-316-080		C-CAP,S 33P-50 CH
C114	87-010-182-080		C-CAP,S 2200P-50 B
C115	87-010-182-080		C-CAP,S 2200P-50 B
C116	87-010-075-040		CAP,E 10-16 5L
C117	87-012-157-080		C-CAP,S 330P-50 CH
C118	87-010-196-080		CHIP CAPACITOR,0.1-25
C119	87-010-196-080		CHIP CAPACITOR,0.1-25
C120	87-010-196-080		CHIP CAPACITOR,0.1-25
C121	87-010-194-080		CAP, CHIP 0.047
C122	87-010-194-080		CAP, CHIP 0.047
C124	87-010-555-040		CAP,E 100-10 GAS
C125	87-010-196-080		CHIP CAPACITOR,0.1-25
C201	87-010-178-080		CHIP CAP 1000P
C202	87-010-194-080		CAP, CHIP 0.047
C203	87-010-408-040		CAP,E 47-50 SME
C204	87-010-404-040		CAP,E 4.7-50 SME
C205	87-010-404-040		CAP,E 4.7-50 SME
C371	87-010-196-080		CHIP CAPACITOR,0.1-25
C372	87-010-196-080		CHIP CAPACITOR,0.1-25
C373	87-010-196-080		CHIP CAPACITOR,0.1-25
C374	87-010-196-080		CHIP CAPACITOR,0.1-25
C375	87-010-196-080		CHIP CAPACITOR,0.1-25
C376	87-012-158-080		C-CAP,S 390P-50 CH
C377	87-010-196-080		CHIP CAPACITOR,0.1-25
C402	87-010-196-080		CHIP CAPACITOR,0.1-25
C404	87-010-196-080		CHIP CAPACITOR,0.1-25
C406	87-010-196-080		CHIP CAPACITOR,0.1-25
C408	87-010-196-080		CHIP CAPACITOR,0.1-25
C501	87-010-319-080		C-CAP,S 56P-50 CH
C502	87-010-319-080		C-CAP,S 56P-50 CH
C503	87-012-393-080		C-CAP,S 0.22-16 R K
C504	87-010-197-080		CAP, CHIP 0.01 DM
C505	87-010-180-080		C-CER 1500P
C506	87-010-213-080		C-CAP,S 0.015-50 B
C507	87-010-213-080		C-CAP,S 0.015-50 B
C508	87-010-197-080		CAP, CHIP 0.01 DM
C509	87-010-181-080		CAP,CHIP S 1800P
C510	87-010-196-080		CHIP CAPACITOR,0.1-25
C511	87-010-544-040		CAP,E 0.1-50 SME
C512	87-010-374-040		CAP,E 47-10
C513	87-010-401-040		CAP,E 1-50 SME
C514	87-010-401-040		CAP,E 1-50 SME
C515	87-010-183-080		C-CAP,S 2700P-50 B
C516	87-010-183-080		C-CAP,S 2700P-50 B
C518	87-010-196-080		CHIP CAPACITOR,0.1-25
C519	87-010-264-040		CAP,E 100-10 5L
C523	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C601	87-010-405-040		CAP,E 10-50
C602	87-010-186-080		CAP,CHIP 4700P
C603	87-010-378-040		CAP,E 10-16
C604	87-010-382-040		CAP,E 22-25 SME
C605	87-010-196-080		CHIP CAPACITOR,0.1-25
C607	87-010-321-080		CHIP CAPACITOR,82P(J)
C608	87-010-196-080		CHIP CAPACITOR,0.1-25
C609	87-010-545-040		CAP,E 0.22-50 SME
C611	87-010-177-080		C-CAP,S 820P-50 SL
C614	87-A10-189-040		CAP,E 220-10
C651	87-010-401-040		CAP,E 1-50 SME
C652	87-010-196-080		CHIP CAPACITOR,0.1-25
C653	87-010-196-080		CHIP CAPACITOR,0.1-25
C901	87-010-263-040		CAP,E 100-10
C902	87-010-196-080		CHIP CAPACITOR,0.1-25
C903	87-010-313-080		CAP, CHIP 18P
C904	87-012-155-080		C-CAP 180P-50CH
C905	87-010-400-040		CAP,E 0.47-50
FB601	87-008-372-080		FILTER, EMI BL OIRNI
FL201	88-NF5-611-010		FL,BJ609GK
J601	87-A60-284-010		JACK,3.5MO (MSC)
J602	87-A60-284-010		JACK,3.5MO (MSC)
L501	87-005-448-080		COIL 220UH,K
L901	87-007-340-010		COIL,CLOCK 4.19MHZ
LED401	87-A90-783-080		LED,SLZ-781C-06H-S-T2

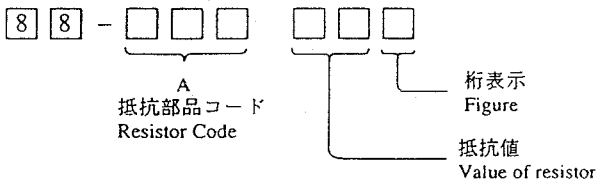
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED402	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED403	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED404	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED405	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED406	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED407	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED408	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED409	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED410	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED411	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED412	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED413	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED414	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED415	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED416	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED417	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED418	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED419	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED420	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED421	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED422	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED423	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED424	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED425	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED426	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED427	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED428	87-017-350-080		LED,SEL1550CM
LED429	87-017-350-080		LED,SEL1550CM
LED430	87-017-350-080		LED,SEL1550CM
LED431	87-017-350-080		LED,SEL1550CM
LED432	87-017-350-080		LED,SEL1550CM
LED433	87-017-350-080		LED,SEL1550CM
LED434	87-017-350-080		LED,SEL1550CM
LED435	87-017-350-080		LED,SEL1550CM
LED436	87-017-350-080		LED,SEL1550CM
LED437	87-017-350-080		LED,SEL1550CM
LED444	87-070-278-010		LED,SLZ-738A-24-S
LED445	87-070-290-010		LED,SLZ 936-30-S
LED446	87-070-278-010		LED,SLZ-738A-24-S
LED447	87-070-278-010		LED,SLZ-738A-24-S
LED448	87-070-290-010		LED,SLZ 936-30-S
LED449	87-070-278-010		LED,SLZ-738A-24-S
S101	87-A90-792-010		SW,RTRY EC12E12244 ENCORDER
S102	87-A90-535-010		SW,RTRY EC16B24304
S301	87-A90-095-080		SW,TACT EVQ11G04M
S302	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S309	87-A90-095-080		SW,TACT EVQ11G04M
S310	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S313	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S321	87-A90-095-080		SW,TACT EVQ11G04M
S322	87-A90-095-080		SW,TACT EVQ11G04M
S323	87-A90-095-080		SW,TACT EVQ11G04M
S324	87-A90-095-080		SW,TACT EVQ11G04M
S325	87-A90-095-080		SW,TACT EVQ11G04M
S326	87-A90-095-080		SW,TACT EVQ11G04M
S327	87-A90-095-080		SW,TACT EVQ11G04M
S333	87-A90-095-080		SW,TACT EVQ11G04M
S341	87-A90-095-080		SW,TACT EVQ11G04M
S342	87-A90-095-080		SW,TACT EVQ11G04M
S343	87-A90-095-080		SW,TACT EVQ11G04M
S344	87-A90-095-080		SW,TACT EVQ11G04M
S345	87-A90-095-080		SW,TACT EVQ11G04M
S346	87-A90-095-080		SW,TACT EVQ11G04M
S347	87-A90-095-080		SW,TACT EVQ11G04M
S348	87-A90-095-080		SW,TACT EVQ11G04M
S349	87-A90-095-080		SW,TACT EVQ11G04M
S350	87-A90-095-080		SW,TACT EVQ11G04M
X101	87-A70-070-080		VIB,CER 5.76MHZ CRHF
KEY C.B			
S351	87-A90-095-080		SW,TACT EVQ11G04M
S352	87-A90-095-080		SW,TACT EVQ11G04M
S353	87-A90-095-080		SW,TACT EVQ11G04M
S354	87-A90-095-080		SW,TACT EVQ11G04M
S355	87-A90-095-080		SW,TACT EVQ11G04M
LED438	87-070-201-080		LED,SLP9118C-51-S-T1
LED439	87-070-201-080		LED,SLP9118C-51-S-T1
LED440	87-070-201-080		LED,SLP9118C-51-S-T1
LED441	87-070-201-080		LED,SLP9118C-51-S-T1
LED442	87-070-201-080		LED,SLP9118C-51-S-T1
LED443	87-070-201-080		LED,SLP9118C-51-S-T1
HI-AMP C.B			
C101	87-012-368-080		C-CAP,S 0.1-50 F
C102	87-012-368-080		C-CAP,S 0.1-50 F
C103	87-A10-520-090		CAP,E 3300-35 M SMG
C104	87-A10-520-090		CAP,E 3300-35 M SMG
C106	87-010-178-080		CHIP CAP 1000P
C201	87-010-112-080		CAP, ELECT 100-16V
C202	87-010-378-080		CAP, ELECT 10-16V
C207	87-010-401-080		CAP, ELECT 1-50V
C208	87-010-401-080		CAP, ELECT 1-50V
C209	87-010-180-080		CAP,CHIP S B1500P
C210	87-010-180-080		CAP,CHIP S B1500P
C211	87-010-545-080		CAP, ELECT 0.22-50V
C212	87-010-545-080		CAP, ELECT 0.22-50V
C213	87-010-184-080		CHIP CAPACITOR 3300P(K)
C214	87-010-184-080		CHIP CAPACITOR 3300P(K)
C217	87-010-402-080		CAP, ELECT 2.2-50V
C218	87-010-402-080		CAP, ELECT 2.2-50V
C219	87-A10-596-080		C-CAP,S 100P-100 J CH
C220	87-A10-596-080		C-CAP,S 100P-100 J CH
C221	87-010-260-080		CAP, ELECT 47-25V
C222	87-010-260-080		CAP, ELECT 47-25V
C223	87-010-544-080		CAP, ELECT 0.1-50V
C224	87-010-544-080		CAP, ELECT 0.1-50V
C225	87-010-993-080		C-CAP,S 0.056-25 B
C226	87-010-993-080		C-CAP,S 0.056-25 B
C227	87-010-196-080		CHIP CAPACITOR,0.1-25
C228	87-010-196-080		CHIP CAPACITOR,0.1-25
C234	87-016-285-080		CAP,E 47-100SME
C235	87-016-285-080		CAP,E 47-100SME
C237	87-010-196-080		CHIP CAPACITOR,0.1-25
C240	87-010-196-080		CHIP CAPACITOR,0.1-25
C243	87-010-196-080		CHIP CAPACITOR,0.1-25
J201	87-A60-545-010		JACK,PIN 4P W/R
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
R243	87-A00-258-080		RES,M/F 0.22-1W J
R244	87-A00-258-080		RES,M/F 0.22-1W J
R245	87-A00-258-080		RES,M/F 0.22-1W J
R246	87-A00-258-080		RES,M/F 0.22-1W J
RY101	87-045-382-010		RELAY,OUAZ-SH-112L
AC1 C.B			
⚠ FC1	87-033-147-010		FUSE CLAMP,MT-20<LH>
⚠ F101	87-035-458-010		FUSE,4A 250V T W/C<LH>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ F101	87-035-491-010		FUSE,6A 125V D UL<U>
⚠ F102	87-035-458-010		FUSE,4A 250V T W/C<LH>
⚠ FC2	87-033-147-010		FUSE CLAMP,MT-20<LH>
⚠ FC3	87-033-147-010		FUSE CLAMP,MT-20<LH>
⚠ FC4	87-033-147-010		FUSE CLAMP,MT-20<LH>
⚠ FC101	87-A90-505-080		FUSE CLAMP,TP00351-51<U>
⚠ FC102	87-A90-505-080		FUSE CLAMP,TP00351-51<U>
⚠ PT101	88-NF5-602-010		PT,LH EI96-60 8NF-5<LH>
⚠ PT101	88-NF5-601-010		PT,U EI85-60 8NF-5<U>
⚠ SW101	87-A90-165-010		SW,SL 1-2-3 SWS2301<LH>
⚠ T1	87-A60-317-010		TERMINAL, 1P MSC<LH>
⚠ T101	87-A60-317-010		TERMINAL, 1P MSC<U>
⚠ T102	87-A60-317-010		TERMINAL, 1P MSC<U>
⚠ T2	87-A60-317-010		TERMINAL, 1P MSC<LH>
AC2 C.B			
⚠ PR101	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR101	87-026-682-080		PROTECTOR,10A 60V491<LH>
⚠ PR102	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR102	87-026-682-080		PROTECTOR,10A 60V491<LH>
⚠ PR103	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR103	87-026-682-080		PROTECTOR,10A 60V491<LH>
⚠ PR104	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR104	87-026-682-080		PROTECTOR,10A 60V491<LH>
⚠ PR105	87-A90-210-010		FUSE,7A 125V 251<U>
⚠ PR105	87-A90-195-080		PROTECTOR,7A 125V 49C<LH>
⚠ PR106	87-A90-210-010		FUSE,7A 125V 251<U>
⚠ PR106	87-A90-195-080		PROTECTOR,7A 125V 49C<LH>
W104	85-NF5-628-010		F-CABLE,7P-2.5

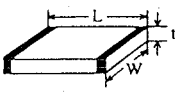
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
DECK C.B			
CON105	87-099-756-019		CONN, 15P 9604 S F
SFR1	87-024-581-019		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-410		SOL ASSY, 27
SOL2	82-ZM1-618-410		SOL ASSY, 27
SW1	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-036-110-010		SW,MICRO SPPB62
SW6	87-036-110-010		SW,MICRO SPPB62
SW8	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW9	87-A90-248-019		SW,MICRO ESE11SH2CXQ
W001	82-ZM3-601-019		RBN,CORD,4P-75
HEAD-1 C.B			
HEAD-2 C.B			
CON351	87-NF6-616-010		CONN ASSY,8P-RPB

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード：A Resistor Code: A
1／16W	1608	±5%	CJ		1.6	0.8	0.45	108
1／10W	2125	±5%	CJ		2	1.25	0.45	118
1／8W	3216	±5%	CJ		3.2	1.6	0.55	128

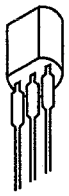
TRANSISTOR ILLUSTRATION

E C B

KTA1266GR
KTC3198GR

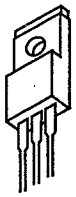
E C B

CC5551



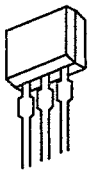
E C B

2SA1296



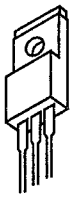
B C E

2SB1370
2SB1625
2SD2494
FN1016
FP1016



E C B

2SA933
2SC4115

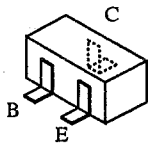


G D S

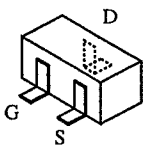
2SK2937

B C E

2SB1626
2SD2495

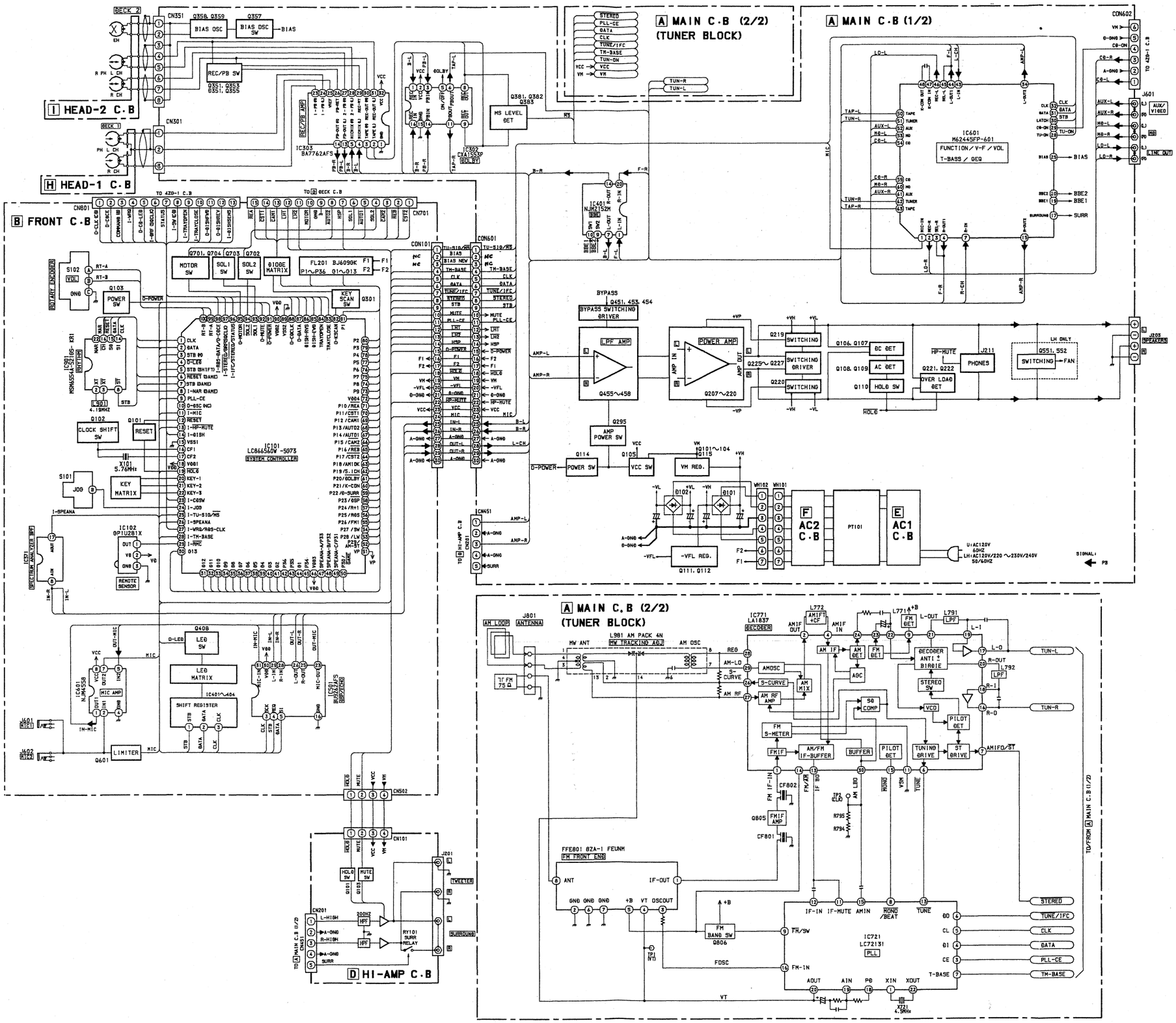


2SA1235F
2SC2714
2SC3052F
CMBT5401
CMBT5551
CSA1362GR
CSD1306E
DTA123JK
DTA144WK
RN1410
RT1N141C
RT1N144C
RT1P141C
RT1P144C
RT1P441C



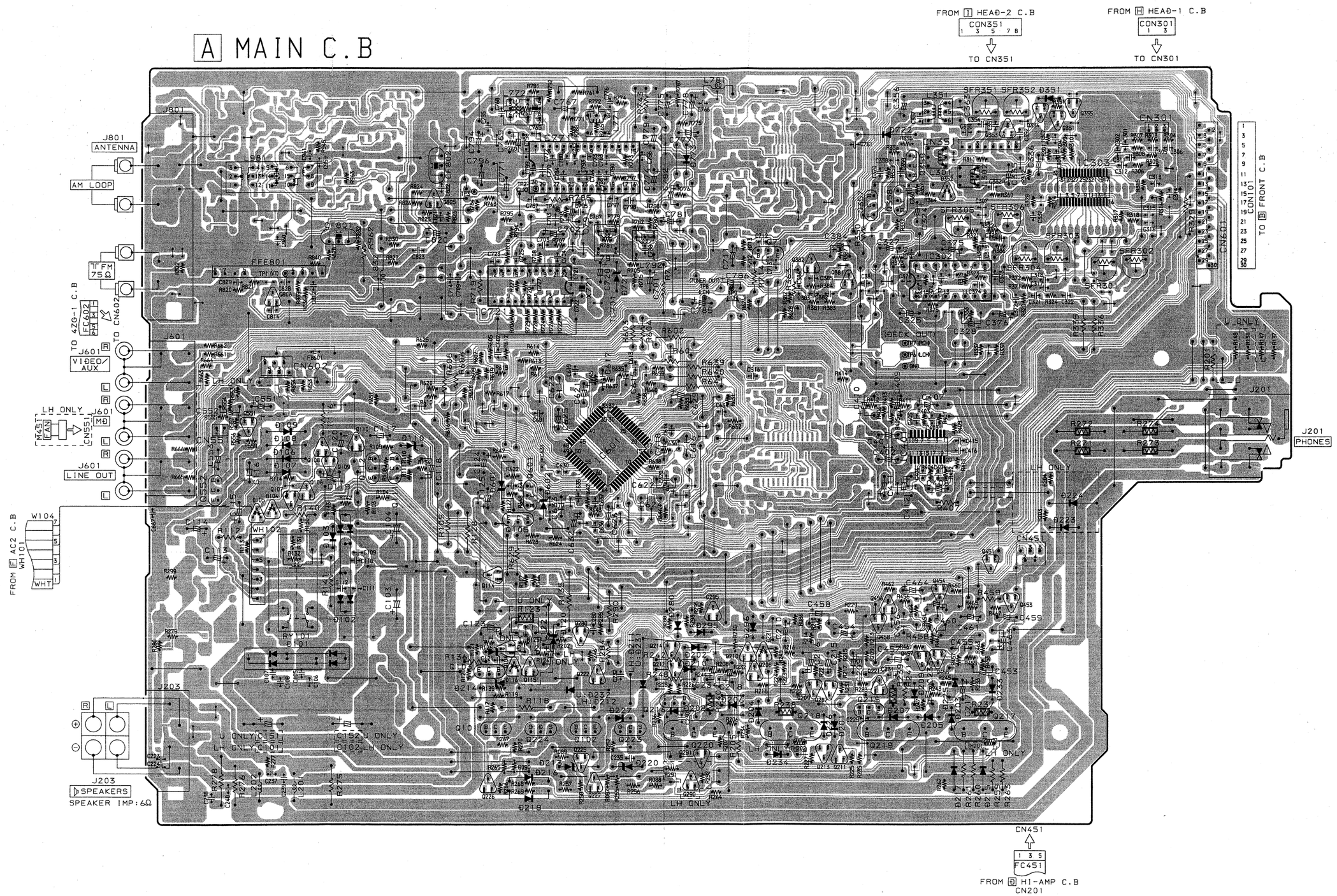
2SK2158

BLOCK DIAGRAM (MAIN / FRONT)

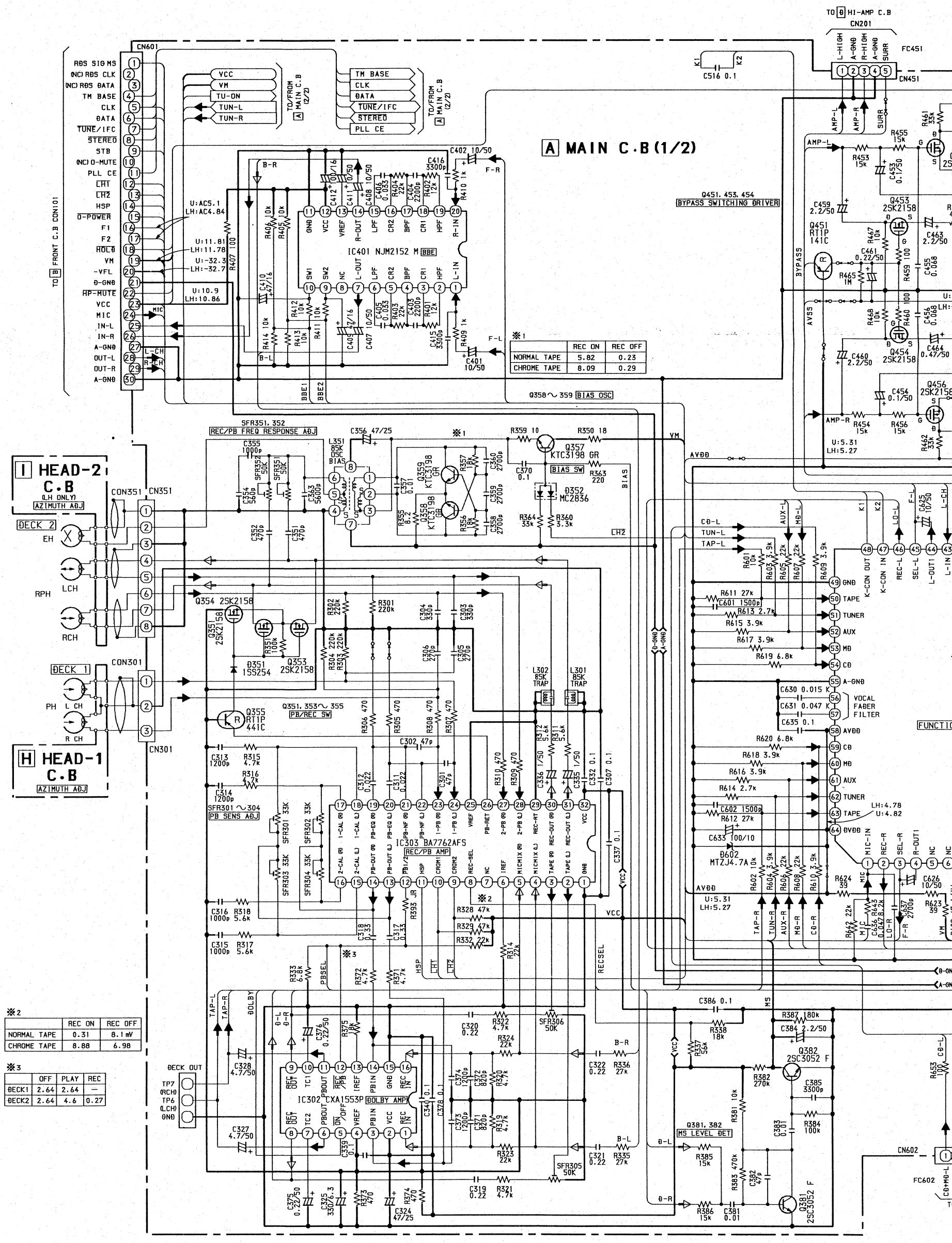


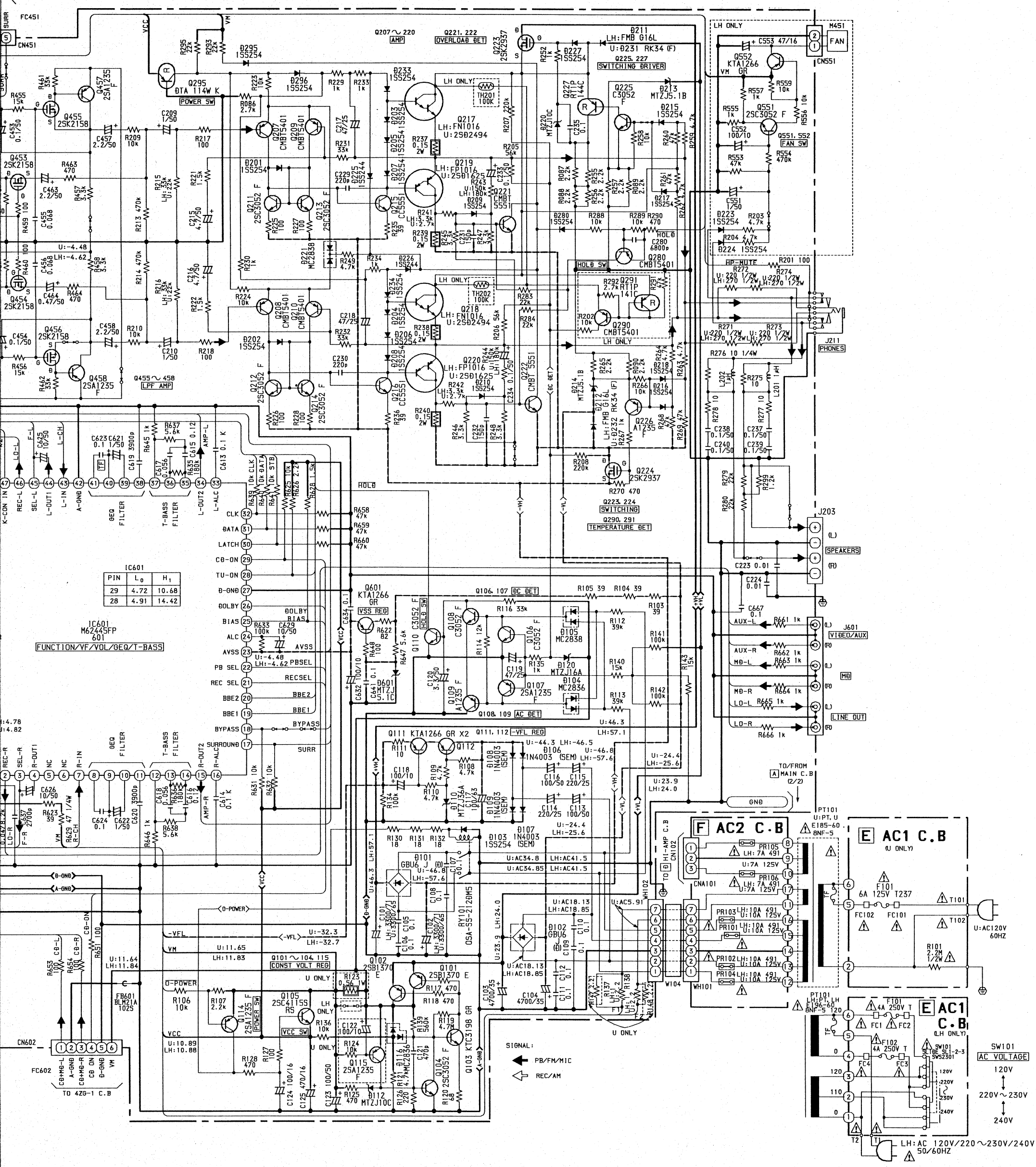
1 2 3 4 5 6 7 8 9 10 11 12 13 14

A B C D E F G H I J

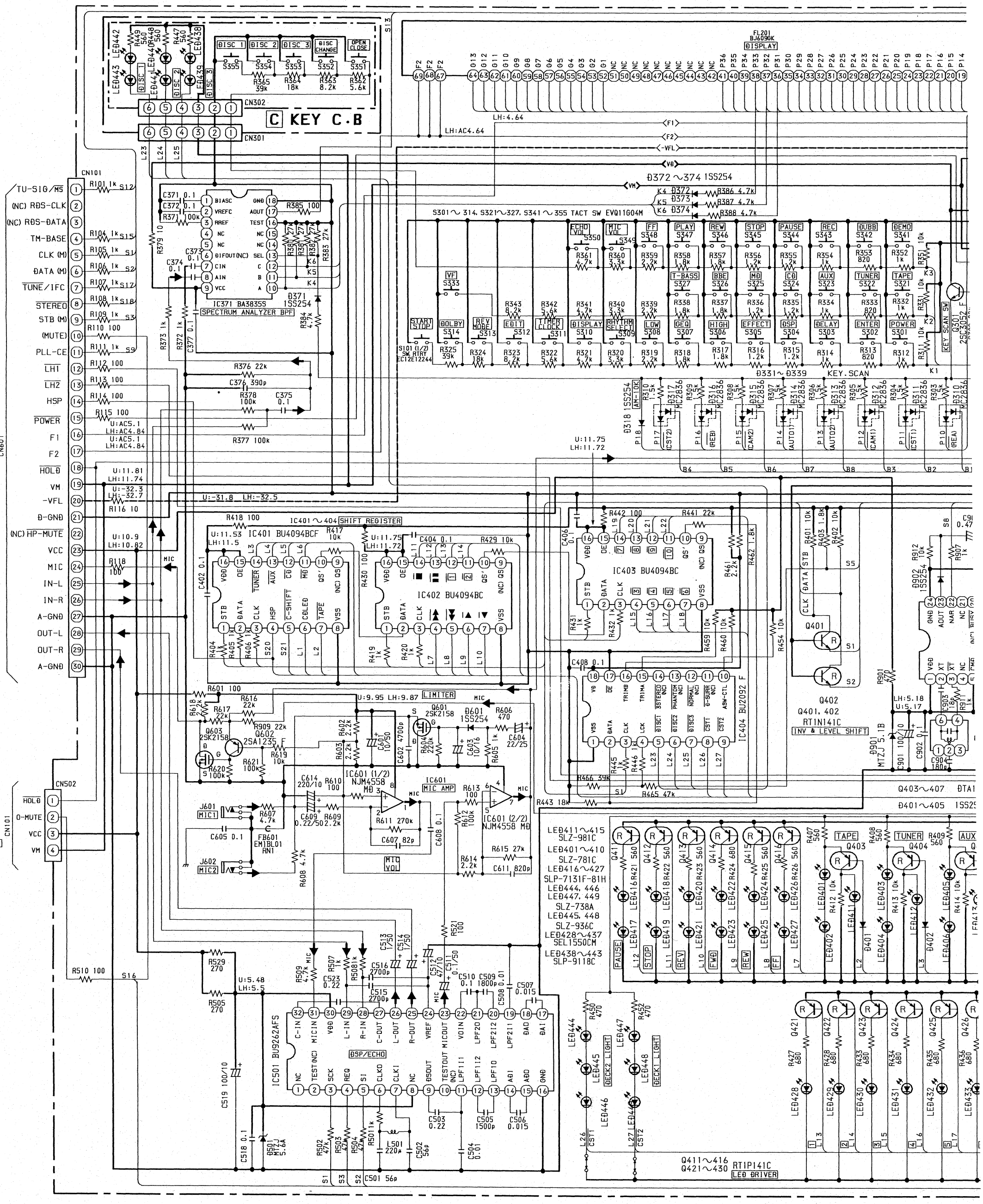


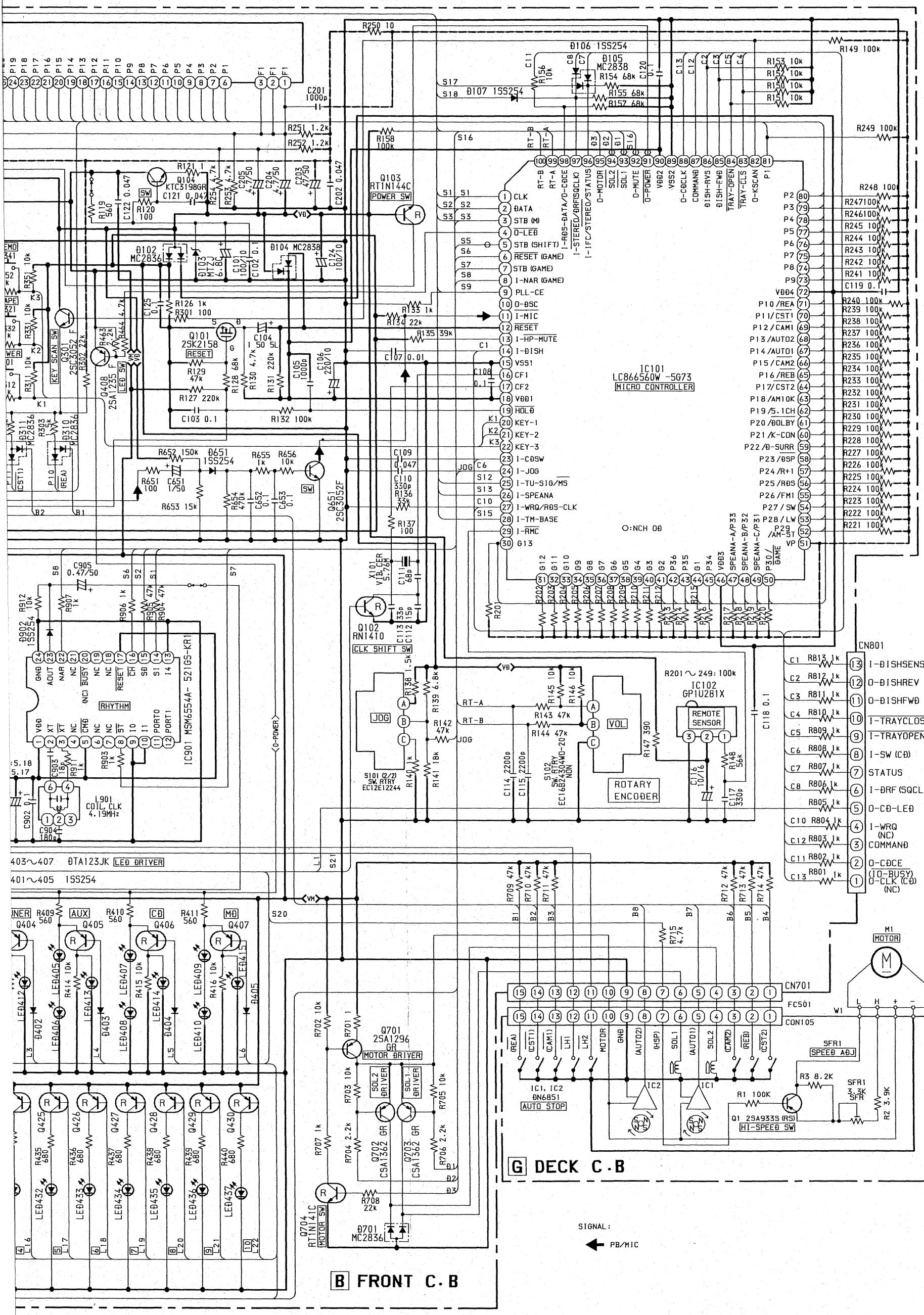
SCHEMATIC DIAGRAM – 1 (MAIN 1 / 2)

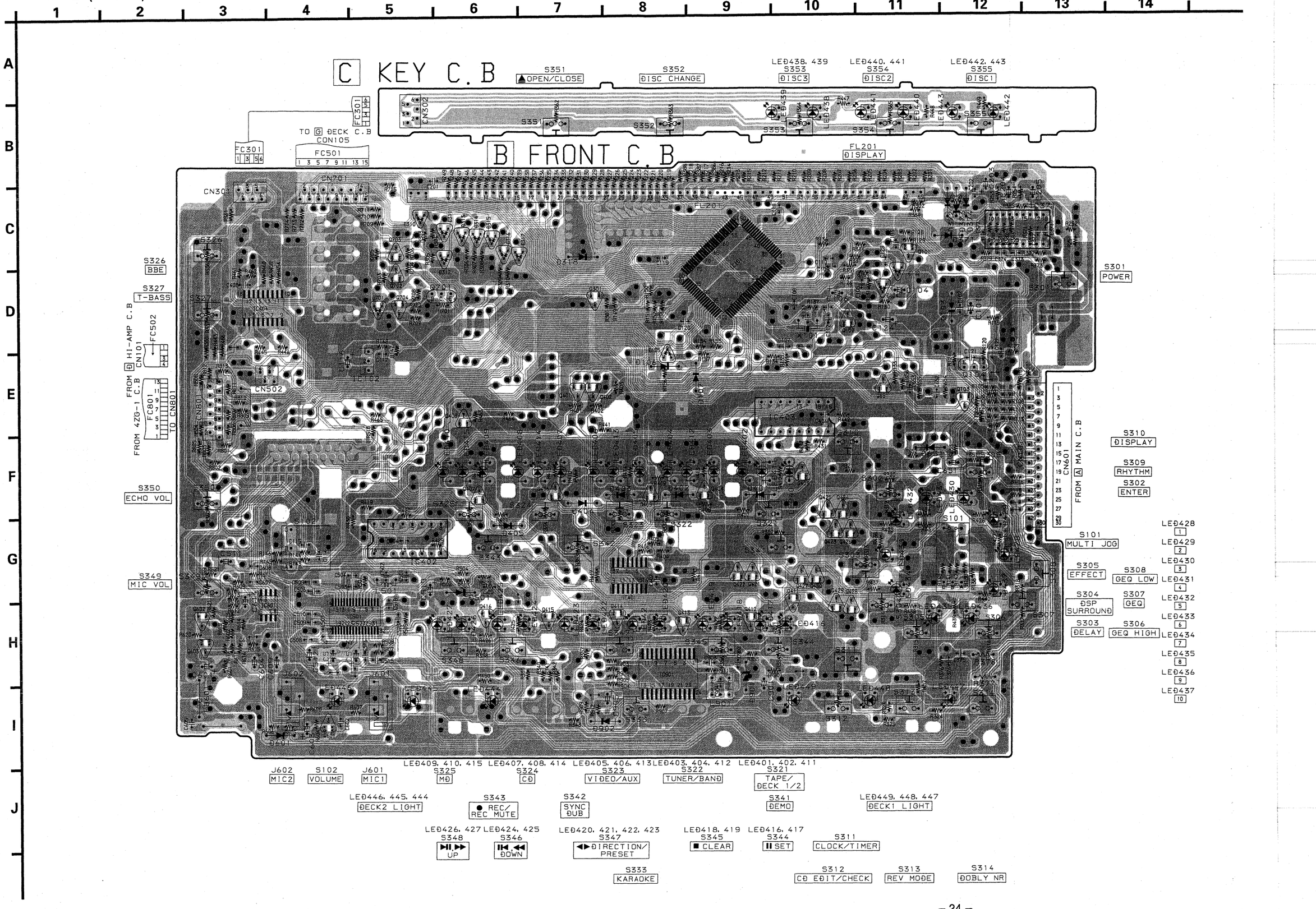



IC601
PIN | Lo | H1
29 | 4.72 | 10.68
28 | 4.91 | 14.42
IC601
M62445FP
601
FUNCTION/VF/VOL/GEQ/T-BASS
Q295 DTA 114W K
POWER SW
Q207 220 AMP
Q221, 222 OVERLOAD DET
Q225, 227 SWITCHING DRIVER
Q455 2SK2158
Q453 2SK2158
Q454 2SK2158
Q456 2SK2158
Q457 2SA1235 F
Q458 2SA1235 F
Q455 458 LPF AMP
Q211 2SC3052 F
Q212 2SC3052 F
Q213 2SC3052 F
Q214 2SC3052 F
Q215 C5551
Q216 C5551
Q217 LH:FN1016 U:2SD2494
Q218 LH:FN1016 U:2SD2494
Q219 LH:FP1016 U:2SD1625
Q220 LH:FP1016 U:2SD1625
Q221 CMBT 5551
Q222 CMBT 5551
Q223 2SK2937
Q224 2SK2937
Q226 A1235 F
Q601 KTA1266 GR
VSS REG
Q110 C3052 F HOLD SW
Q108 C3052 F
Q106 C3052 F
Q109 A1235 F
Q107 2SA1235 F
Q111 KTA1266 GR X2
Q112
Q111, 112 -VFL REG
Q101 2SB1370 E
Q102 2SB1370 E
Q103 KTC3198 GR
Q104 2SC3052 F
Q105 2SC4115S RS
Q114 2SA1235 F POWER SW
Q115 2SA1235 F
Q116 MC2838
Q101 104, 115 CONST VOLT REG
Q106, 107 DC DET
Q108, 109 AC DET
Q280 CMBT5401
Q290 CMBT5401
Q291 RT1P 141C
Q292 2.7k RT1P 141C
Q227 RT1P 144C
Q552 KTA1266 GR
Q551 2SC3052 F
Q551, 552 FAN SW
Q223, 224 SWITCHING
Q290, 291 TEMPERATURE DET
D211 LH:FMB G16L U:D231 RK34 (F)
D212 LH:FMB G16L U:D232 RK34 (F)
D213 MTZJ5.1B
D214 MTZJ5.1B
D215 1SS254
D216 1SS254
D217 1SS254
D218 1SS254
D220 MTZJ10C
D221 MC2838
D222 1SS254
D223 1SS254
D224 1SS254
D226 1SS254
D227 1SS254
D280 1SS254
D295 1SS254
D296 1SS254
D201 1SS254
D202 1SS254
D203 1SS254
D204 1SS254
D205 1SS254
D206 1SS254
D207 1SS254
D208 1SS254
D209 1SS254
D210 1SS254
D225 1SS244
D101 GBU6 J
D102 GBU6
D103 1SS254 1N4003 (SEM)
D106 1N4003 (SEM)
D107 1N4003 (SEM)
D108 1N4003 (SEM)
D110 MTZJ36A
D112 MTZJ10C
D120 MTZJ16A
D104 MC2836
D105 MC2838
D601 MTZJ 5.1C
TH201 100K
TH202 100K
HOLD
HOLD SW
BYPASS
SURROUND
SURR
PBSEL
RECSEL
BBE2
BBE1
AVSS
BIAS
BOLBY
BOLBY BIAS
CLK
DATA
LATCH
CB-ON
TU-ON
D-GND
ALC
PB SEL
REC SEL
VCC
-VFL
VM
D-POWER
U ONLY
LH ONLY
SIGNAL:
PB/FM/MIC
REC/AM
HP-MUTE
TO/FROM A MAIN C.B (2/2)
TO 4ZG-1 C.B
F AC2 C.B
E AC1 C.B
(U ONLY)
(LH ONLY)
LH:AC 120V/220~230V/240V 50/60HZ
SW101 AC VOLTAGE
120V
220V~230V
240V
FAN
PHONES
SPEAKERS
(L)
(R)
VIDEO/AUX
MD
LINE OUT
CN451
CN551
CN602
FC451
FC602
J203
J211
J601
M451
PT101
T101
T102
F101
6A 125V T237
4A 250V T
W104
WH101
WH102
CNA101
CN102
K-CON IN
REC-L
SEL-L
L-OUT1
L-IN
A-GND
L-OUT2
L-ALC
GEQ FILTER
T-BASS FILTER
REC-R
SEL-R
R-OUT1
R-IN
R-OUT2
R-ALC
AMP-L
AMP-R
F-L
L-CH
F-R
R-CH
LO-L
LO-R
MD-L
MD-R
AUX-L
AUX-R
LO-CH
MD-CH
CB+MD-L
CB+MD-R
CB ON
B-GND
VM
A-GND
B-GND
VCC
-VL
+VL
-VH
+VH
U:-4.48 LH:-4.62
U:-4.78 LH:-4.82
U:-44.3 LH:-46.5
U:-46.8 LH:-57.6
U:-24.4 LH:-25.6
U:46.3 LH:57.1
U:23.9 LH:24.0
U:AC34.8 LH:AC41.5
U:AC34.85 LH:AC41.5
U:AC18.13 LH:AC18.85
U:AC5.91
U:-32.3 LH:-32.7
U:11.64 LH:11.84
U:11.65 LH:11.83
U:10.89 LH:10.88

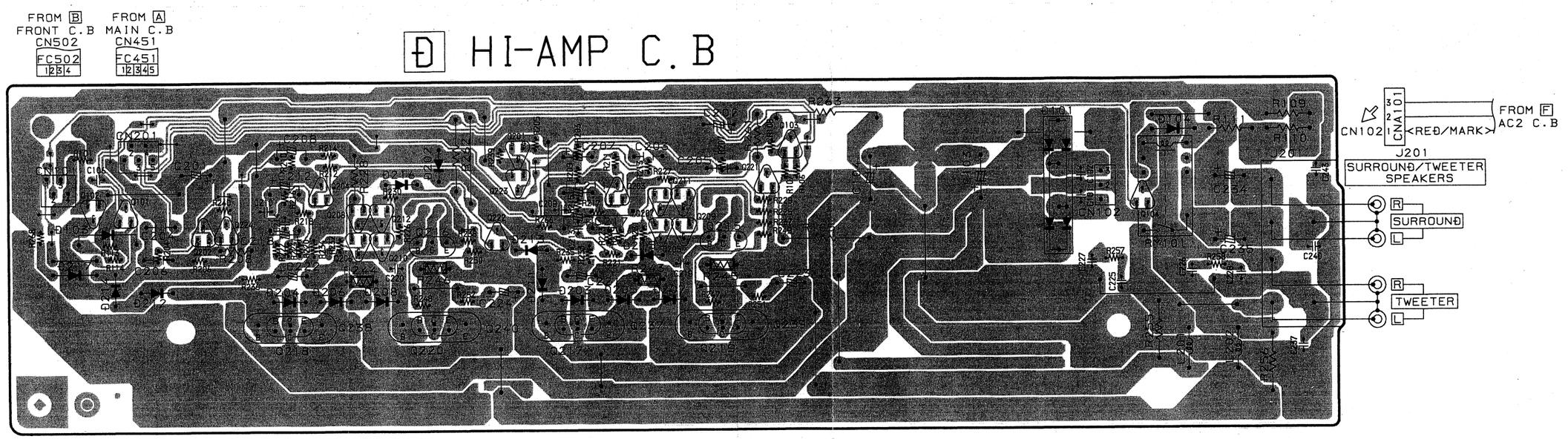
SCHEMATIC DIAGRAM – 2 (FRONT)

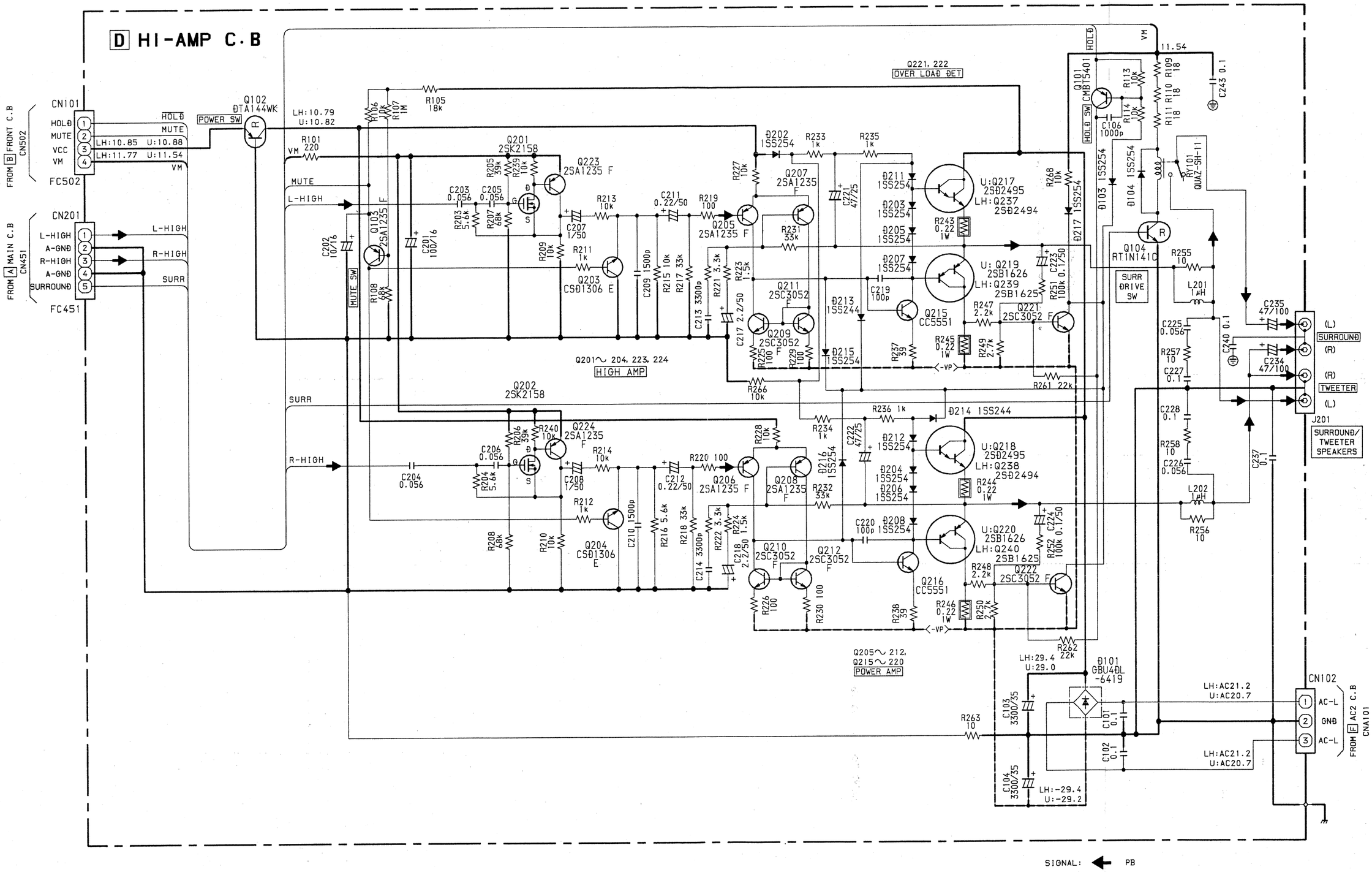



IC101
LC866560W -5G73
MICRO CONTROLLER
IC102
GP1U281X
REMOTE SENSOR
ROTARY ENCODER
JOG
VOL
RHYTHM
IC901 MSM6554A- 521GS-KR1
CN801
CN701
FC501
CON105
MOTOR
SFR1
SPEED ADJ
HI-SPEED SW
AUTO STOP
IC1, IC2
DN6851
LED DRIVER
MOTOR DRIVER
SOL2 DRIVER
SOL1 DRIVER
KEY SCAN SW
LED SW
POWER SW
CLK SHIFT SW
RESET
SIGNAL:
PB/MIC
O:NCH OD
G DECK C.B
B FRONT C.B

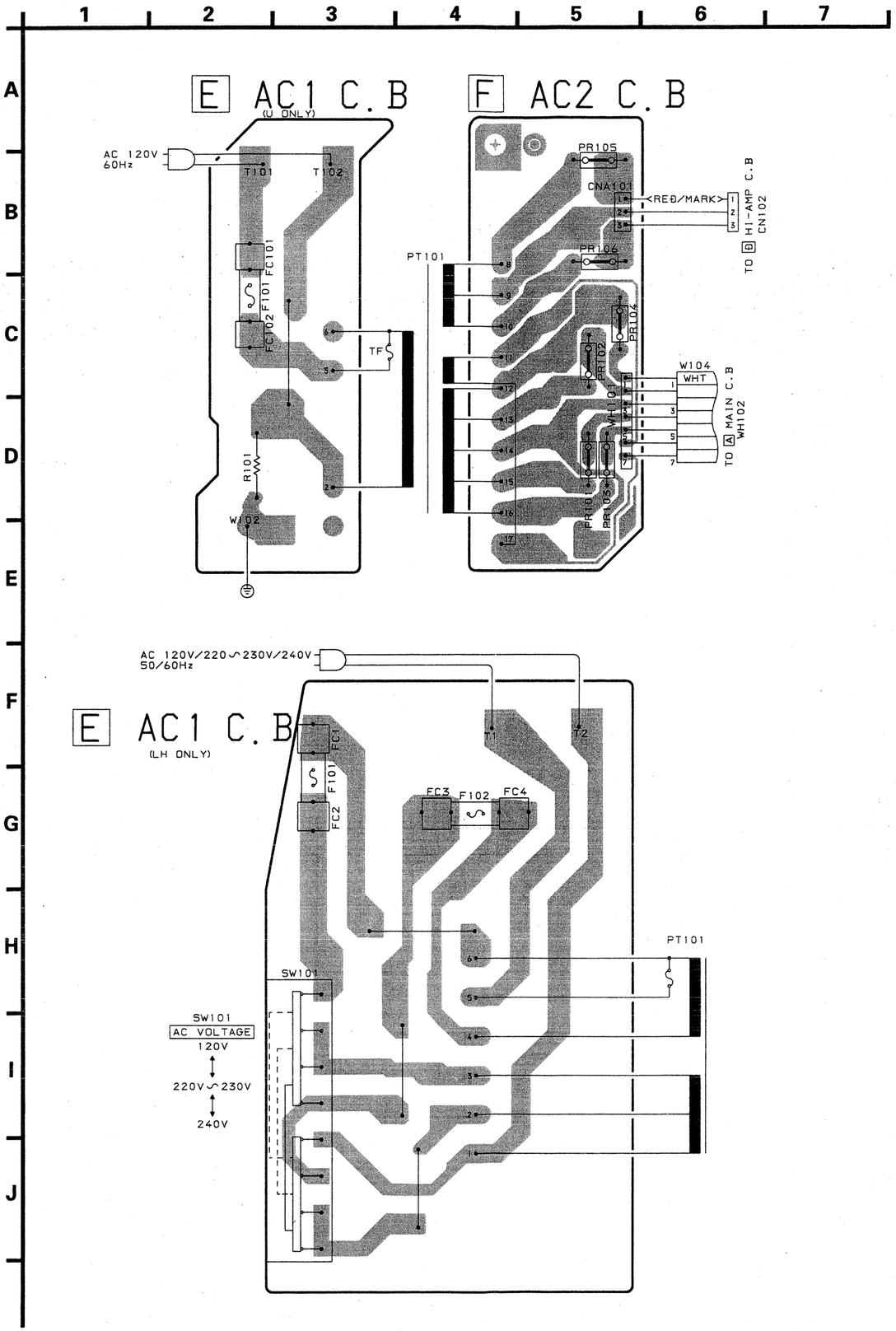

C KEY C.B
S351 ▲OPEN/CLOSE
S352 DISC CHANGE
LEÐ438, 439 S353 DISC3
LEÐ440, 441 S354 DISC2
LEÐ442, 443 S355 DISC1
CN502
FC301
TO G ÐECK C.B CON105
FC501
B FRONT C.B
FL201 ÐISPLAY
CN303
CN701
S326 BBE
S327 T-BASS
S350 ECHO VOL
S349 MIC VOL
D HI-AMP C.B CN101
FC502
FROM 4ZG-1 C.B FC801
TO CN801
CN502
S301 POWER
S310 ÐISPLAY
S309 RHYTHM
S302 ENTER
S101 MULTI JOG
S305 EFFECT
S308 GEQ LOW
S304 ÐSP SURROUNÐ
S307 GEQ
S303 ÐELAY
S306 GEQ HIGH
FROM MAIN C.B CN601
LEÐ428 1
LEÐ429 2
LEÐ430 3
LEÐ431 4
LEÐ432 5
LEÐ433 6
LEÐ434 7
LEÐ435 8
LEÐ436 9
LEÐ437 10
LEÐ409, 410, 415 LEÐ407, 408, 414 LEÐ405, 406, 413 LEÐ403, 404, 412 LEÐ401, 402, 411
J602 MIC2
S102 VOLUME
J601 MIC1
S325 MÐ
S324 CÐ
S323 VIÐEO/AUX
S322 TUNER/BANÐ
S321 TAPE/ ÐECK 1/2
LEÐ446, 445, 444 ÐECK2 LIGHT
S343 ● REC/ REC MUTE
S342 SYNC ÐUB
S341 ÐEMO
LEÐ449, 448, 447 ÐECK1 LIGHT
LEÐ426, 427 LEÐ424, 425 LEÐ420, 421, 422, 423 LEÐ418, 419 LEÐ416, 417
S348 UP
S346 ÐOWN
S347 ◀▶ÐIRECTION/ PRESET
S345 ■ CLEAR
S344 ❚❚ SET
S311 CLOCK/TIMER
S333 KARAOKE
S312 CÐ EÐIT/CHECK
S313 REV MOÐE
S314 ÐOBLY NR

Ð HI-AMP C.B

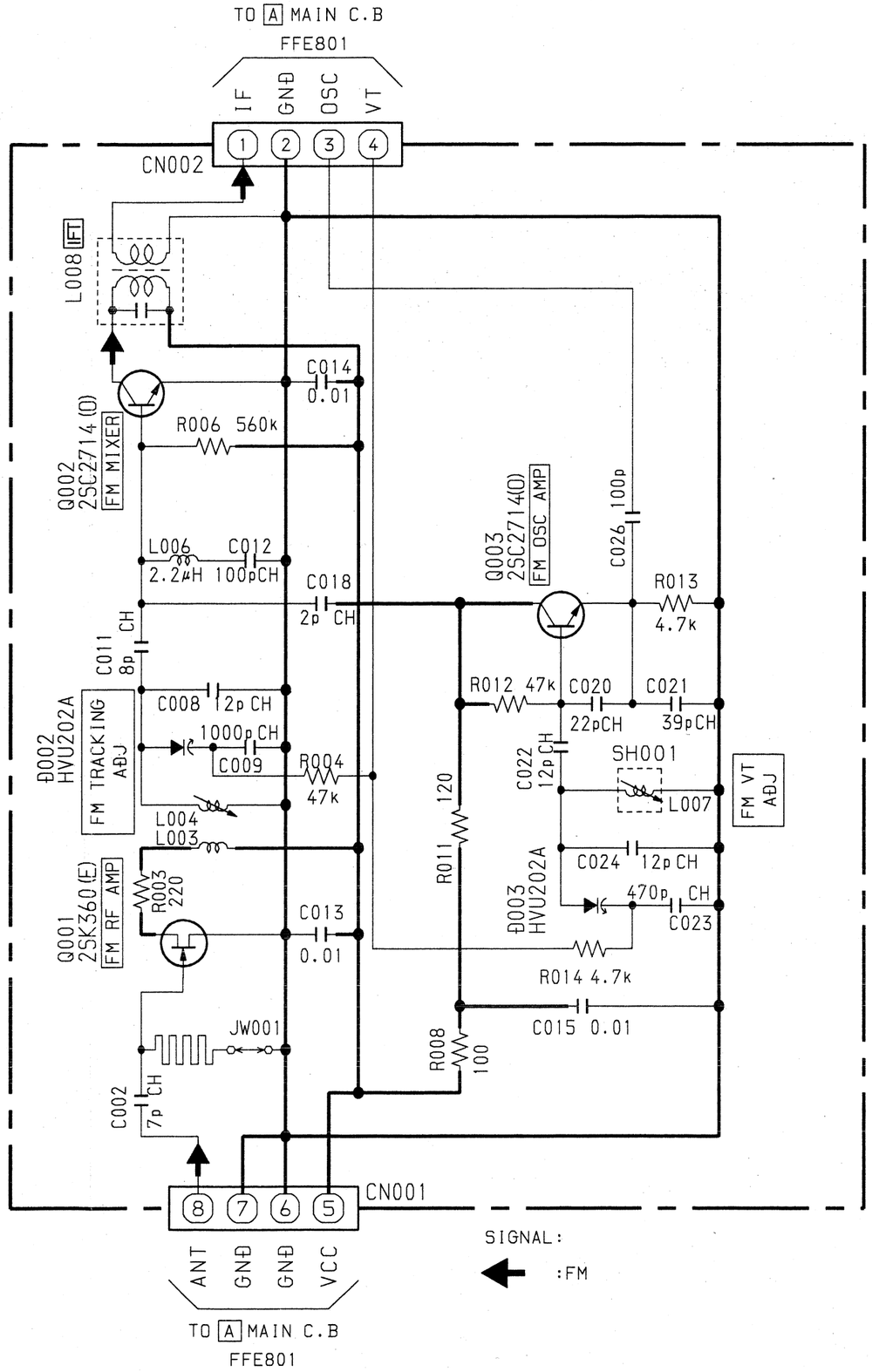

FROM B
FRONT C.B
CN502
FC502
1 2 3 4
FROM A
MAIN C.B
CN451
FC451
1 2 3 4 5
CN201
R243
R109
R110
C234
C235
C240
C225
R257
R258
CN102
CNA101
FROM F
AC2 C.B
<REÐ/MARK>
J201
SURROUNÐ/TWEETER
SPEAKERS
R
SURROUNÐ
L
R
TWEETER
L


D HI-AMP C.B
CN101
HOLD
MUTE
VCC
VM
FC502
FROM B FRONT C.B CN502
LH:10.85 U:10.88
LH:11.77 U:11.54
CN201
L-HIGH
A-GND
R-HIGH
A-GND
SURROUND
FC451
FROM A MAIN C.B CN451
Q102 DTA144WK
POWER SW
LH:10.79 U:10.82
R105 18k
R101 VM 220
MUTE
L-HIGH
R-HIGH
SURR
Q201 2SK2158
Q223 2SA1235 F
Q207 2SA1235 F
Q205 2SA1235 F
Q103 2SA1235 F
Q203 CSD1306 F
Q209 2SC3052 F
Q211 2SC3052 F
Q202 2SK2158
Q224 2SA1235 F
Q206 2SA1235 F
Q208 2SA1235 F
Q204 CSD1306 F
Q210 2SC3052 F
Q212 2SC3052 F
Q201 ~ 204, 223, 224
HIGH AMP
Q205 ~ 212, Q215 ~ 220
POWER AMP
Q221, 222
OVER LOAD DET
D202 1SS254
D211 1SS254
D203 1SS254
D205 1SS254
D207 1SS254
D213 1SS244
D215 1SS254
D214 1SS244
D212 1SS254
D204 1SS254
D206 1SS254
D208 1SS254
D216 1SS254
D217 1SS254
U:Q217 2SD2495
LH:Q237 2SD2494
U:Q219 2SB1626
LH:Q239 2SB1625
Q215 CC5551
Q221 2SC3052 F
U:Q218 2SD2495
LH:Q238 2SD2494
U:Q220 2SB1626
LH:Q240 2SB1625
Q216 CC5551
Q222 2SC3052 F
Q101 CMBT5401
HOLD SW
Q104 RT1N141C
SURR DRIVE SW
RY101 QUAZ-SH-11
D103 1SS254
D104 1SS254
11.54
VM
HOLD
D101 GBU4DL-6419
LH:29.4 U:29.0
CN102
AC-L
GND
AC-L
FROM F AC2 C.B CNA101
LH:AC21.2 U:AC20.7
LH:-29.4 U:-29.2
J201
SURROUND/ TWEETER SPEAKERS
(L) SURROUND
(R)
(R) TWEETER
(L)
MUTE SW
-VP
L201 1μH
L202 1μH
SIGNAL: PB

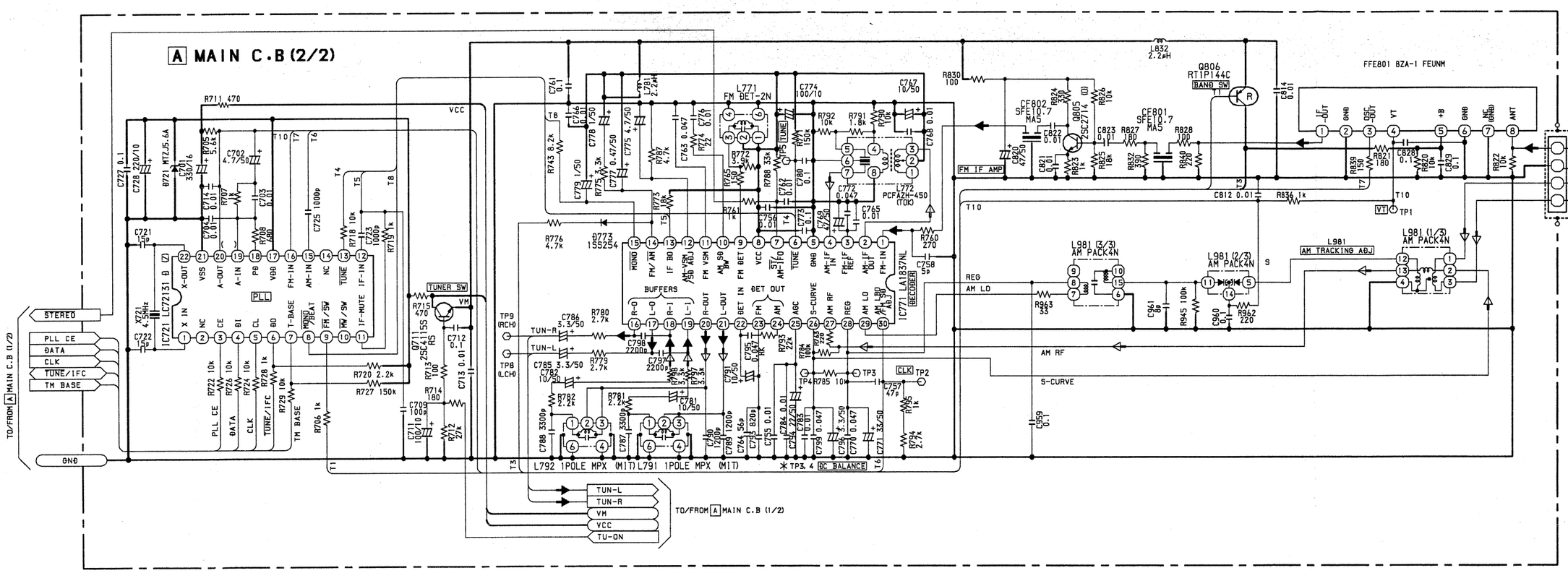
WIRING – 4 (AC1 / AC2)



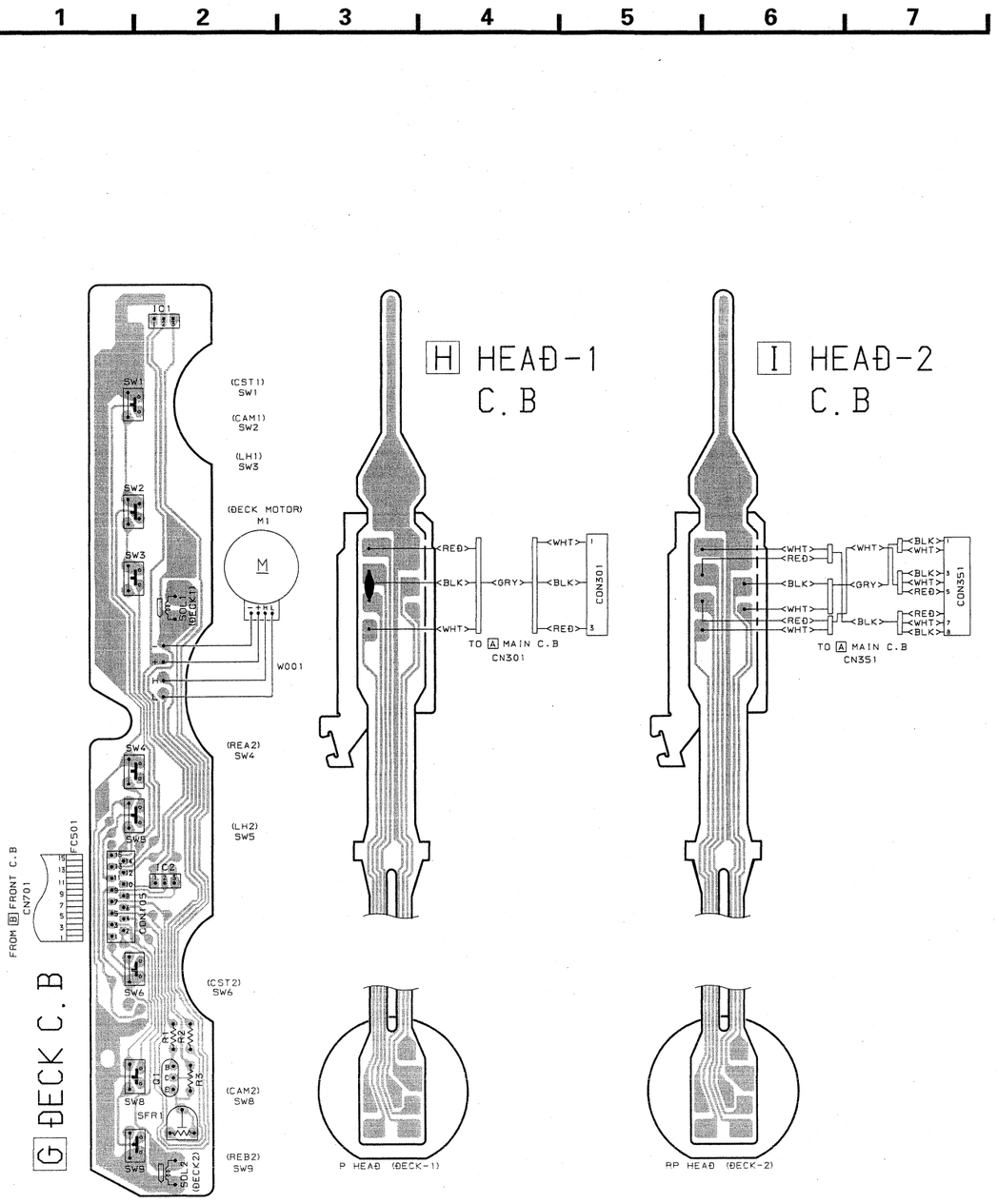
SCHEMATIC DIAGRAM – 4 (TUNER FRONT END)



SCHEMATIC DIAGRAM – 5 (MAIN 2 / 2)



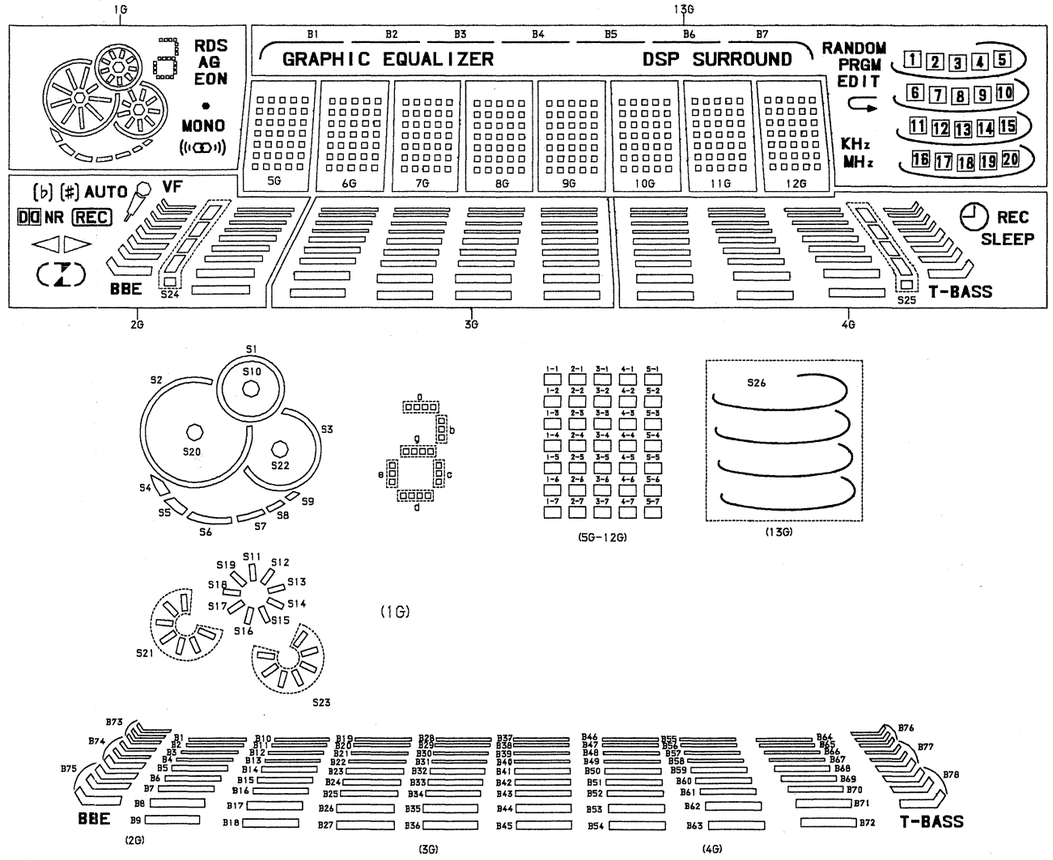
WIRING – 5 (DECK)



FL GRID ASSIGNMENT & ANODE CONNECTION

FL, BJ609GK

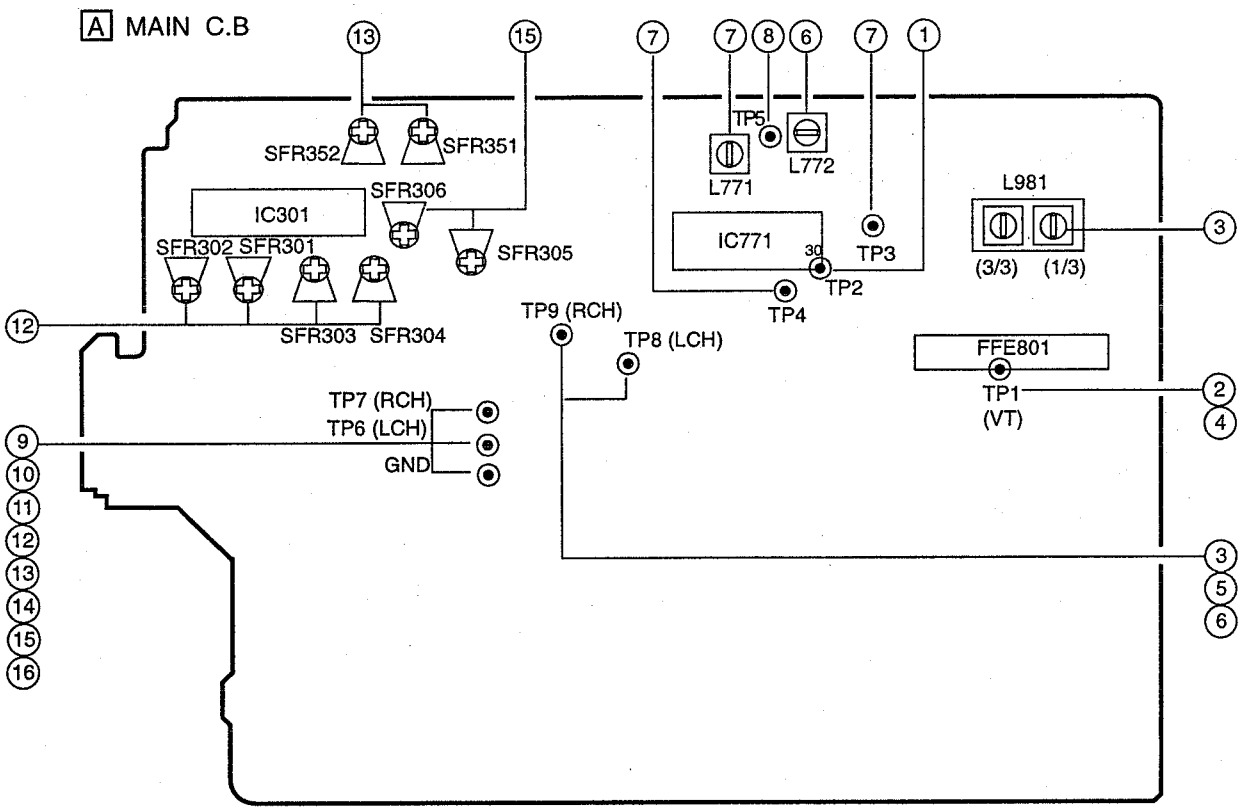
GRID ASSIGNMENT

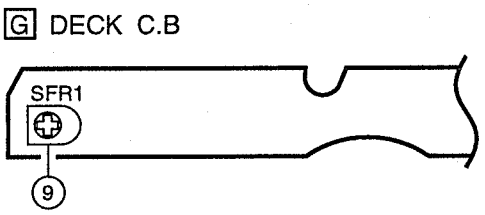


ANODE CONNECTION

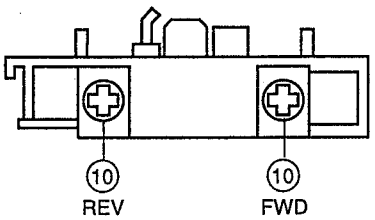
	1G	2G	3G	4G	5G-12G	13G
P1	**EON**	B9	B45	**REC**	1-1	**DSP SURROUND**
P2	**AG**	**DOLBY NR**	B36	B72	2-1	**GRAPHIC EQUALIZER**
P3	○	**BBE**	B27	B63	3-1	B7
P4	**MONO**	S24	B18	B54	4-1	B6
P5	((CD))	BB	B44	⏲	5-1	B5
P6	**RDS**	☾	B35	B71	1-2	B4
P7	b	▼	B26	B62	2-2	B3
P8	c	☽	B17	B53	3-2	B2
P9	a, d, g	B7	B43	**SLEEP**	4-2	B1
P10	e	**REC**	B34	B70	5-2	**RANDOM**
P11	S1	◁	B25	B61	1-3	**PRGM**
P12	S11	▷	B16	B52	2-3	**EDIT**
P13	S12	B6	B42	**T-BASS**	3-3	⊂
P14	S19	♭ ♯	B33	B69	4-3	**KHz**
P15	S13	(♭)	B24	B60	5-3	**MHz**
P16	S10	(♯)	B15	B51	1-4	S26
P17	S18	B5	B41	B78	2-4	**16**
P18	S14	B75	B32	B68	3-4	**11**

	1G	2G	3G	4G	5G-12G	13G
P19	S17	B74	B23	B59	4-4	**6**
P20	S15	B73	B14	B50	5-4	**1**
P21	S16	B4	B40	B77	1-5	**17**
P22	S3	VF	B31	B67	2-5	**12**
P23	S23	**AUTO**	B22	B58	3-5	**7**
P24	S22	—	B13	B49	4-5	**2**
P25	S9	B3	B39	B76	5-5	**18**
P26	S8	—	B30	B66	1-6	**13**
P27	S7	—	B21	B57	2-6	**8**
P28	S6	—	B12	B48	3-6	**3**
P29	S5	B2	B38	S25	4-6	**19**
P30	S4	—	B29	B65	5-6	**14**
P31	S2	—	B20	B56	1-7	**9**
P32	S21	—	B11	B47	2-7	**4**
P33	S20	B1	B37	—	3-7	**20**
P34	—	—	B28	B64	4-7	**15**
P35	—	—	B19	B55	5-7	**5**
P36	—	—	B10	B46	—	**10**





DECK–1 P,DECK-2 R/P/E HEAD



< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2
   Method : Set to AM 1710kHz and check that the test point is 2160kHz ± 45Hz.

2. AM VT Check
   Settings : • Test point : TP1
   Method : Set to AM 1710kHz and AM 530kHz and check that the test point is less than 8.5V(1710kHz) and more than 0.6V(530kHz).

3. AM Tracking Adjustment
   Settings : • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location :
   L981(1/3) 1000kHz
   Method : Set to AM 1000kHz and adjust L981(1/3) to MAX.

4. FM VT Check
   Settings : • Test point : TP1
   Method : Set to FM 108.0MHz and check that the test point is less than 8.0V.
   Set to FM 87.5MHz and check that the test point is more than 0.5V.

5. FM Tracking Check
   Settings : • Test point : TP8(Lch), TP9(Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 9.0dB.

6. AM IF Adjustment
   Settings : • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location :
   L772 ..... 450kHz

7. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4
   • Adjustment location : L771
   • Input level : 54dB
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V. Next, check that the distortion is less than 1.3%

8. Auto Stop Level Check
   AM
   Settings : • Input level : 52dB
   • Test point : TP5
   Method : Set to AM 1000kHz and check that the auto stop is at 52dB +10dB / -15dB.

   FM
   Settings : • Input level : 25dB
   • Test point : TP5
   Method : Set to FM 98.0MHz and check that the auto stop is at 25dB ± 10dB.

< DECK SECTION >

9. Tape Speed Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA–100
   • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

10. Head Azimuth Adjustment (DECK 1, DECK 2)
    Settings : • Test tape : TTA–300
    • Test point : TP6(Lch), TP7(Rch)
    • Adjustment location : Head azimuth adjustment screw
    Method : Play back (FWD) the 10kHz signal of the test tape and adjust screw so that the output becomes maximum.
    Next, perform on REV PLAY mode.

11. PB Frequency Response Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–300
    • Test point :TP6(Lch), TP7(Rch)
    Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is within 2dB.

12. PB Sensitivity Adjustment (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200
    • Test point : TP6(Lch), TP7(Rch)
    • Adjustment Location : SFR301 (DECK1,Lch)
    SFR302 (DECK1,Rch)
    SFR303 (DECK2,Lch)
    SFR304 (DECK2,Rch)
    Method : Play back the test tape and adjust SFRs so that the output level at TP6,TP7 becomes 245mV± 10mV.

13. REC/PB Frequency Response Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP6(Lch), TP7(Rch)
    • Input signal : 1kHz / 10kHz (LINE IN)
    • Adjustment location : SFR351 (Lch)
    SFR352 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 17mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

14. REC/PB Frequency Response Check
    Settings : • Test tape : TTA–615
    • Test point : TP6(Lch), TP7(Rch)
    • Input signal : 1kHz / 10kHz (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 17mV. Record and play back the 1kHz and 10kHz signals and check that the output is 0dB ± 2dB.

15. REC/PB Sensitivity Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP6(Lch), TP7(Rch)
    • Input signal : 1kHz (LINE IN)
    • Adjustment location : SFR305 (Lch)
    SFR306 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 170mV. Record and play back the 1kHz signals and adjust SFRs so that the output of the 1kHz signals becomes 0 ± 0.5dB.

16. REC/PB Sensitivity Check
    Settings : • Test tape : TTA–615
    • Test point : TP6(Lch), TP7(Rch)
    • Input signal : 1kHz (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 170mV. Record and play back the 1kHz signals and check that the output is 0 ± 1.5dB.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	Less than 10 / 9 / 9dB
(THD 3%)	[at 87.5 / 98.0 / 108.0MHz]
S/N 50dB Quieting sensitivity :	
	Less than 35dB
	[at 98.0MHz]
Signal to noise ratio :	Mono : More than 72dB
	Stereo : More than 66dB
	[at 98.0MHz]
Distortion :	Mono : Less than 1.2%
	Stereo : Less than 2.0%
	[at 98.0MHz]
Auto stop level :	25dB ± 10dB [at 98.0MHz]
Stereo separation :	More than 30dB [at 98.0MHz]
Intermediate frequency :	10.7MHz

<MW SECTION>

Sensitivity :	Less than 60dB
(S/N 20 dB)	[at 600kHz]
	Less than 58dB
	[at 1000kHz]
	Less than 58dB
	[at 1400kHz]
Signal to noise ratio :	More than 36dB
	[at 1000kHz]
Distortion :	Less than 1.5%
	[at 1000kHz]
Auto stop level :	52dB +10/-15dB
	[at 1000kHz]
Intermediate frequency :	450kHz

<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.15%
	(W.R.M.S)
Take-up torque :	30 ~ 55g-cm
	(FWD, REV)
F.F torque :	75 ~ 160g-cm
REW torque :	75 ~ 160g-cm
Back tension :	2 ~ 7g-cm
	(FWD, REV)
PB output level :	245mV± 1dB
	(SP OUT 2V)
REC/PB output level :	-3.0dB ± 1dB (NORM)
	-3.5dB ± 1dB (CrO_2)
	(SP OUT 2V)
Distortion (REC/PB) :	Less than 2.0%
	(NORM, CrO_2)
Noise level (PB) :	Less than 2.0mV
	(NORM, SP OUT 2V)
Noise level (REC/PB) :	Less than 3.0mV
	(NORM, SP OUT 2V)
Erasing ratio :	More than 60dB
	(at 125Hz, +10VU)
Test tape :	TTA-602 (NORMAL)
	TTA-615 (CrO_2)

IC DESCRIPTION

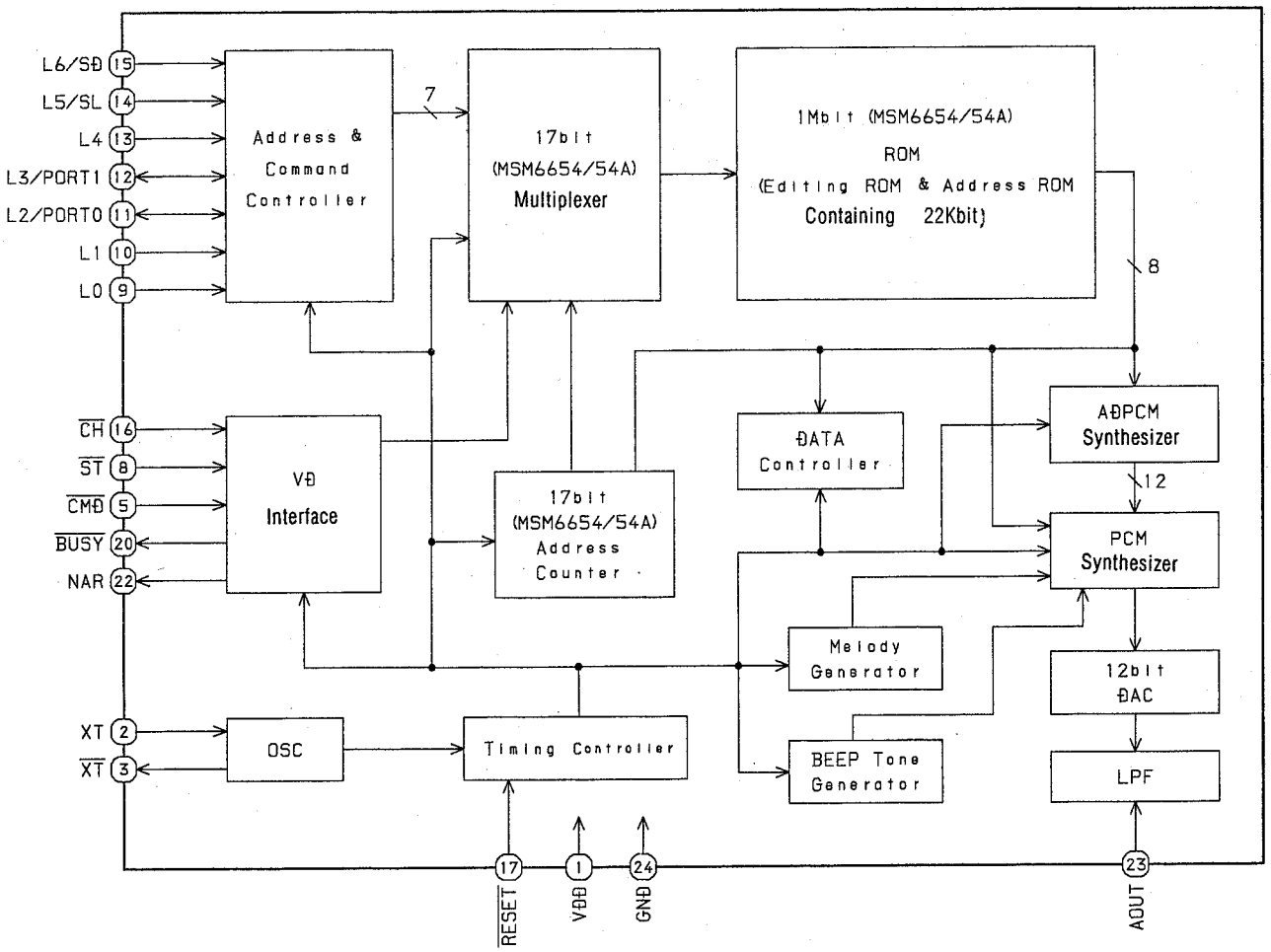
IC, LC866560W-5G73

Pin No.	Pin Name	I/O	Description
1	CLK	O	CLOCK output for MAIN,FRONT PWB.
2	DATA	O	DATA output for MAIN, FRONT PWB.
3	STB	O	Latch strobe output for MAIN PWB.
4	$\overline{\text{O-LED}}$	O	LED $\overline{\text{ON}}$/OFF output.
5	STB (SHIFT)	O	Latch strobe output for FRONT shift register.
6	$\overline{\text{RESET}}$ (GAME)	I	Reset input for Sound IC.
7	STB (GAME)	O	Latch strobe output for Sound IC.
8	I-NAR (GAME)	I	Sound IC NAR input.
9	PLL-CE	O	PLL IC chip enable output.
10	O-DSC	O	Serial data output for PROLOGIC PWB. (Not connected)
11	$\overline{\text{I-MIC}}$	I	Microphone input for AUTO VF display.
12	$\overline{\text{RESET}}$	I	Reset input.
13	$\overline{\text{I-HP-MUTE}}$	I	Headphone input for MUTE by PROLOGIC.
14	I-DISH	I	CD turntable photo sensor A/D converter input.
15	VSS 1	–	GND.
16	CF 1	–	5.76MHz oscillator circuit.
17	CF 2	–	
18	VDD 1	–	Power supply input.
19	$\overline{\text{HOLD}}$	I	Power failure detected input. "H" normal operation, "L" main power cannot be turned on.
20	KEY-1	I	KEY input.(A/D)
21	KEY-2	I	
22	KEY-3	I	
23	I-CD SW	I	CD mechanical switch A/D converter input.
24	I-JOG	I	JOG dial A/D level input.
25	I-TU-SIG/$\overline{\text{MS}}$	I	Tuner signal and deck music sensor signal input.
26	I-SPEANA	I	A/D input for spectrum analyzer display.
27	I-WRQ/RDS-CLK	I	CD WRQ input. TUNER RDS CLOCK input.
28	I-TM-BASE	I	REFERENCE CLOCK input for timer watch.
29	I-$\overline{\text{RMC}}$	I	System remote control signal input.
30~41	G13~G2	O	FL GRID output G2~G13.
42, 43	P36, P35	O	FL SEGMENT output P35, P36.
44	G1	O	FL GRID output G1.
45	P34	O	FL SEGMENT output P34.
46	VDD3	–	Power supply input.
47	SPEANA-A/P33	O	Spectrum analyzer band switching output /FL segment P33 output.
48	SPEANA-B/P32	O	Spectrum analyzer band switching output /FL segment P32 output.
49	SPEANA-C/P31	O	Spectrum analyzer band switching output /FL segment P31 output.
50	P30/$\overline{\text{GAME}}$	I/O	FL segment P30 output / GAME input to diode.
51	VP	–	Power supply input for FL display.
52	P29/AM-ST	I /O	FL segment P29 output / AM-ST input to diode.
53	P28/LW	I/O	FL segment P28 output / LW input to diode.
54	P27/SW	I/O	FL segment P27 output / SW input to diode.

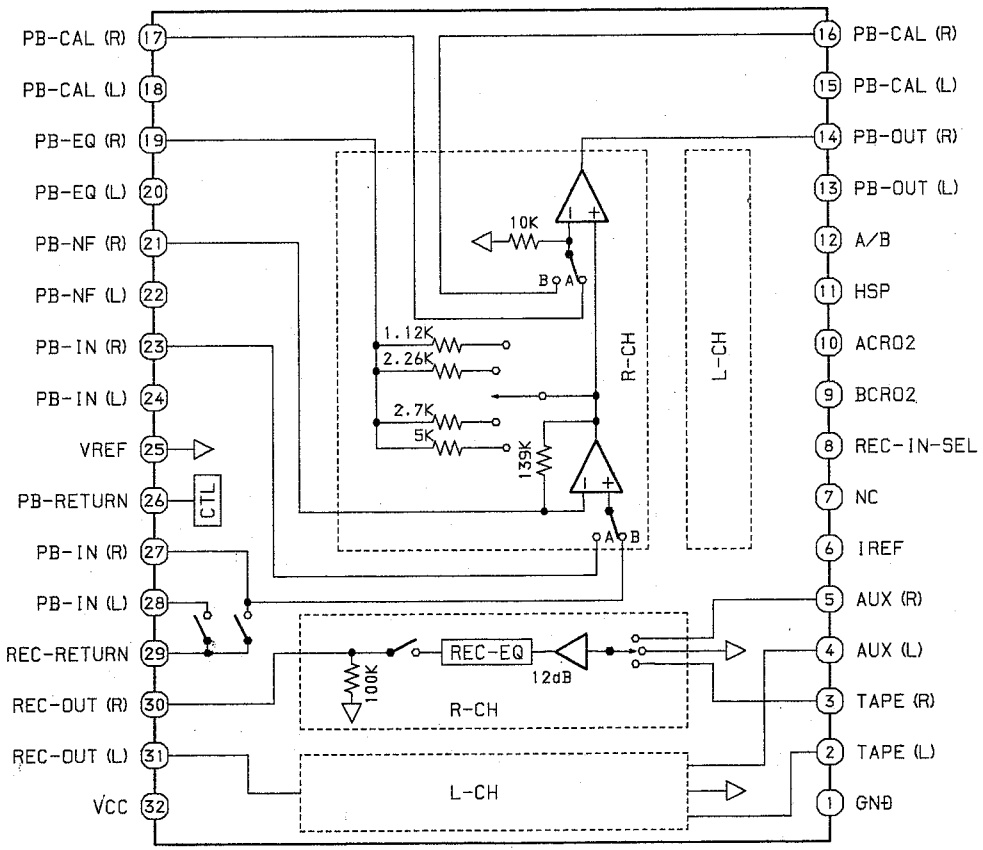
Pin No.	Pin Name	I/O	Description
55	P26/FM 1	I/O	FL segment P26 output / FM1 (OIRT) input to diode.
56	P25/RDS	I/O	FL segment P25 output / RDS input to diode.
57	P24/R+1	I/O	FL segment P24 output / RVS+1 way input to diode.
58	P23/$\overline{\text{DSP}}$	I/O	FL segment P23 output / $\overline{\text{DSP}}$ input to diode.
59	P22/D-SURR	I/O	FL segment P22 output / SURR input to diode.
60	P21/K-CON	I/O	FL segment P21 output / K-CON input to diode.
61	P20/$\overline{\text{DOLBY}}$	I/O	FL segment P20 output / DOLBY input to diode.
62	P19/5.1CH	I/O	FL segment P19 output / 5.1CH input to diode.
63	P18/AM10K	I/O	FL segment P18 output / AM 10kHz input to diode.
64	P17/$\overline{\text{CST 2}}$	I/O	FL segment P17 output / DECK2 cassette detect switch data input.
65	P16/$\overline{\text{REB}}$	I/O	FL segment P16 output / DECK2 side-B record OK switch data input.
66	P15/$\overline{\text{CAM 2}}$	I/O	FL segment P15 output / DECK2 CAM switch data input.
67	P14/AUTO 1	I/O	FL segment P14 output / DECK1 AUTO stop signal input.
68	P13/AUTO 2	I/O	FL segment P13 output / DECK2 AUTO stop signal input.
69	P12/$\overline{\text{CAM 1}}$	I/O	FL segment P12 output / DECK1 CAM switch data input.
70	P11/$\overline{\text{CST 1}}$	I/O	FL segment P11 output / DECK1 cassette detect switch data input.
71	P10/$\overline{\text{REA}}$	I/O	FL segment P10 output / DECK2 side A record OK switch data input.
72	VDD 4	–	Power supply input.
73 ~ 81	P9 ~ P1	O	FL segment P1 ~ P9 output.
82	O-KSCAN	O	Switch SCAN timing output.
83	$\overline{\text{TRAY-CLS}}$	O	CD TRAY CLOSE data output.
84	$\overline{\text{TRAY-OPEN}}$	O	CD TRAY OPEN data output.
85	DISH-FWD	O	CD turntable forward rotation output.
86	DISH-RVS	O	CD turntable reverse rotation output.
87	COMMAND	O	CD command output.
88	O-CDCLK	O	CD clock output.
89	VSS2	-	GND.
90	VDD2	-	Power supply input.
91	$\overline{\text{O-POWER}}$	O	System power supply $\overline{\text{ON}}$/$\overline{\text{OFF}}$ output.
92	O-MUTE	O	System mute ON/$\overline{\text{OFF}}$ output.
93	$\overline{\text{SOL 1}}$	O	DECK 1 solenoid output.
94	$\overline{\text{SOL 2}}$	O	DECK 2 solenoid output.
95	O-MOTOR	O	DECK MOTOR ON/$\overline{\text{OFF}}$ output.
96	I-IFC/$\overline{\text{STEREO}}$/ STATUS	I	Tune IF count serial data input / stereo detected input / CD status data input.
97	I-$\overline{\text{STEREO}}$/ DRF(SQCLK)	I/O	Tuner stereo detected input / CD SQ CLOCK output.
98	I-RDS-DATA/ O-CDCE	I/O	RDS data input / CD chip enable output.
99	RT-A	I	Rotary encoder A input.
100	RT-B	I	Rotary encoder B input.

IC BLOCK DIAGRAM

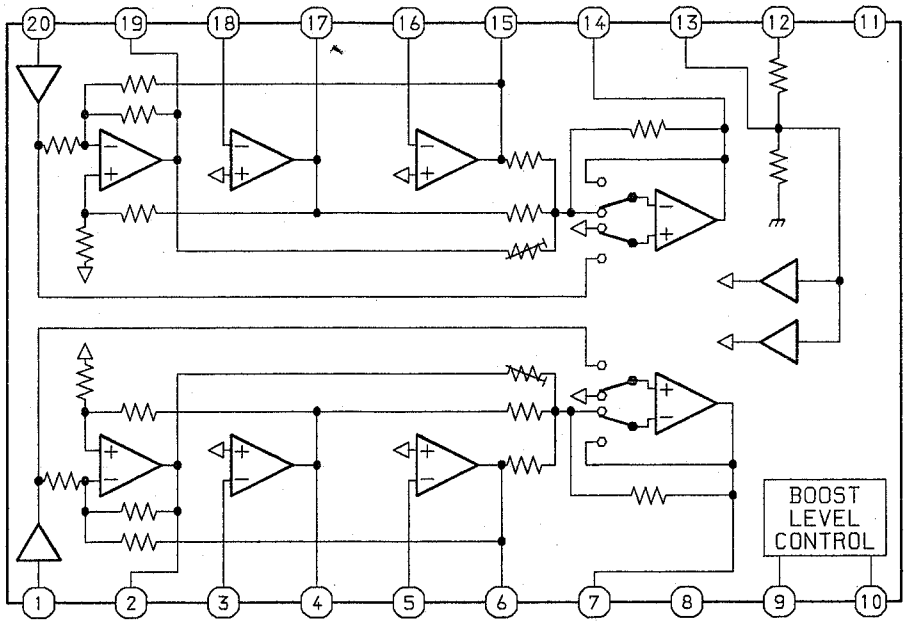
IC, MSM6654A-521GS-KR1



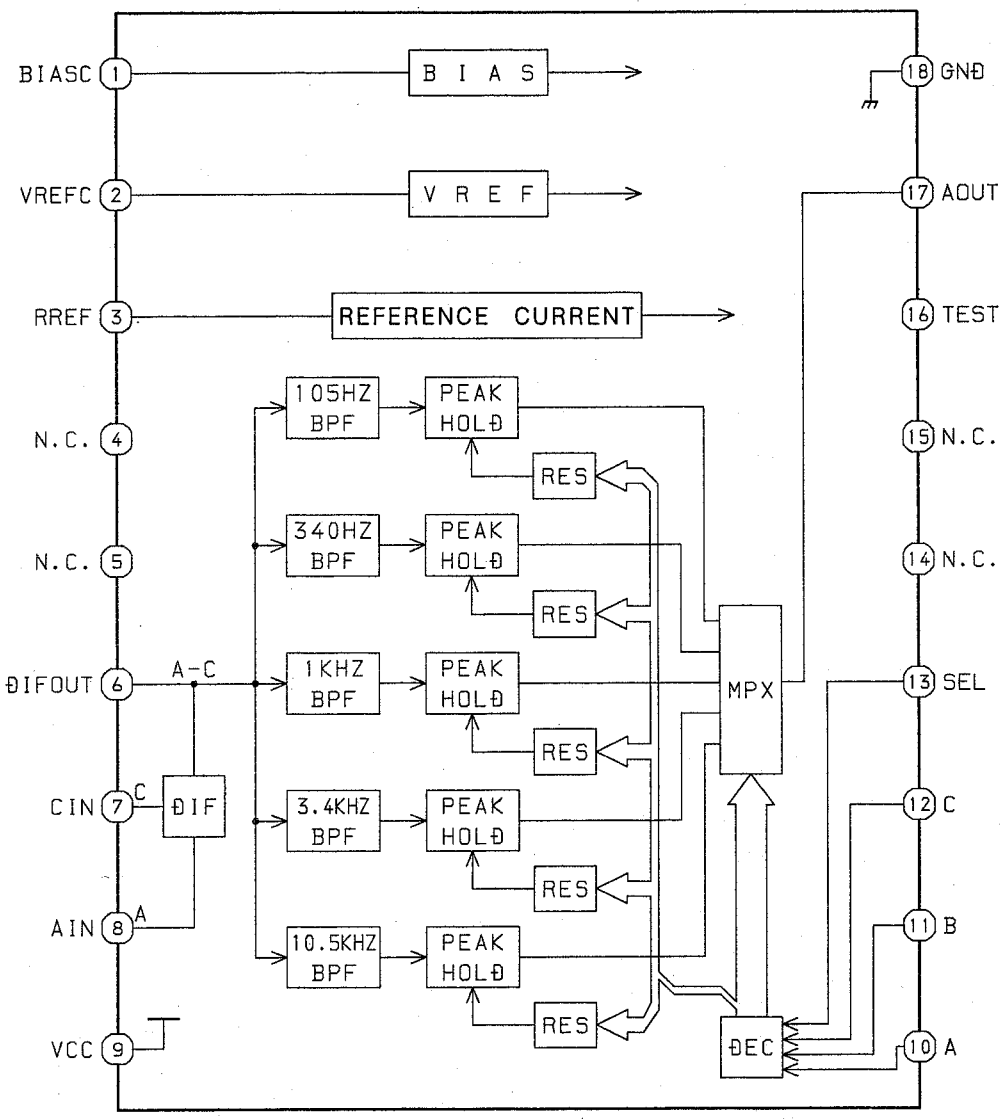
IC, BA7762FS



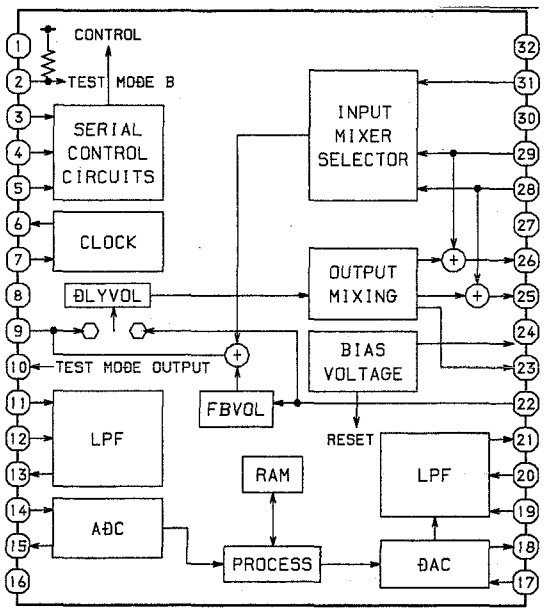
IC, NJM2152M



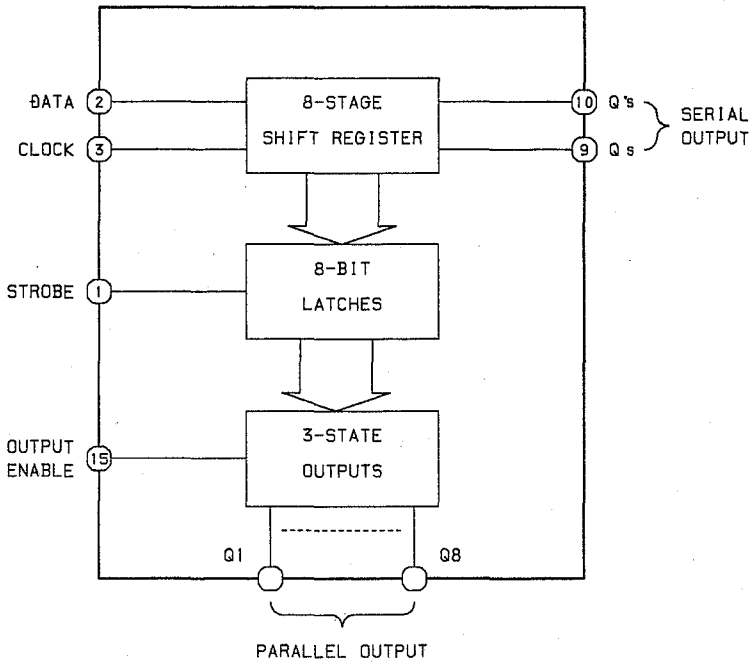
IC, BA3835S



IC, BU9262FS



IC, BU4094BCP/BCF



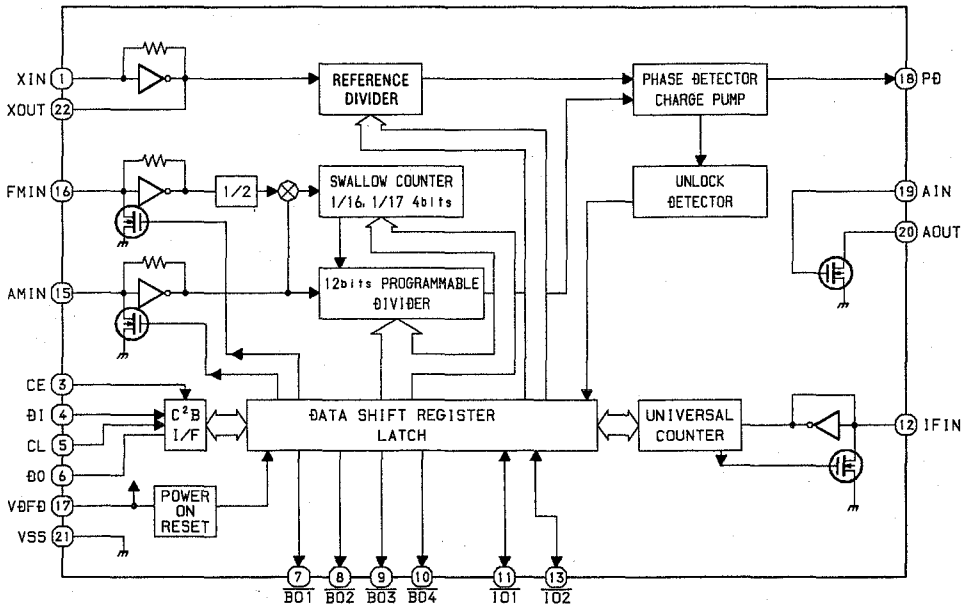
TRUTH TABLE

CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	Qs	Q's
↑	L	X	X	Z	Z	Q7	NO Chg.
↓	L	X	X	Z	Z	No Chg.	Qs
↑	H	L	X	No Chg.	No Chg.	Q7	No Chg.
↑	H	H	L	L	Qn-1	Q7	No Chg.
↑	H	H	H	H	Qn-1	Q7	No Chg.
↓	H	X	X	No Chg.	No Chg.	No Chg.	Qs

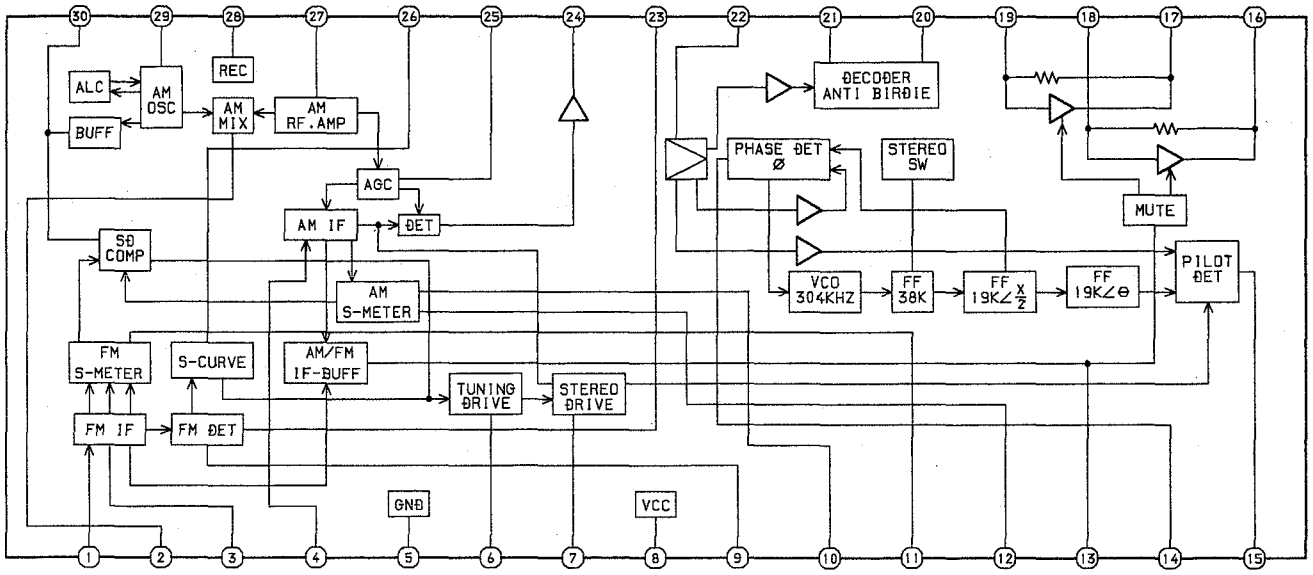
Z=High Impedance

X=Don't Care

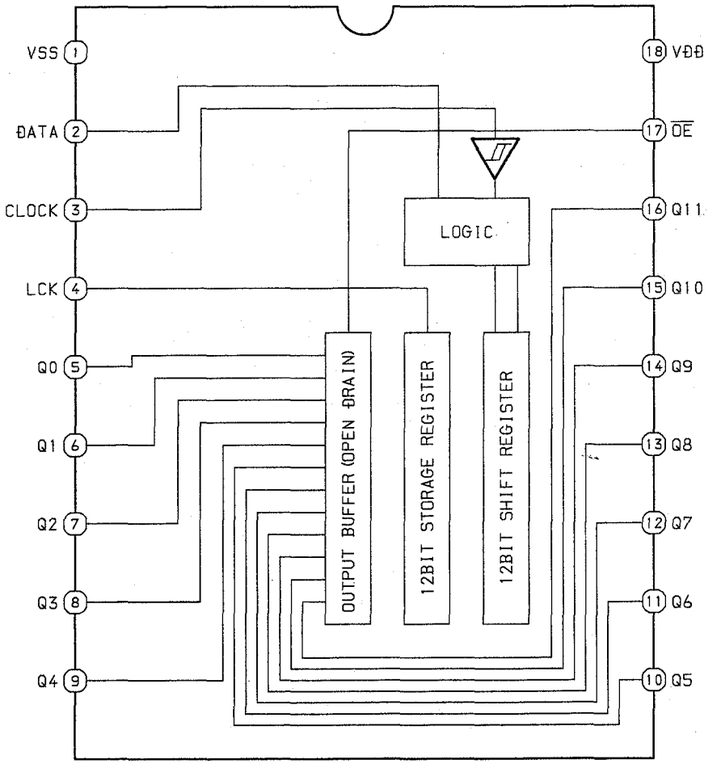
IC, LC72131D



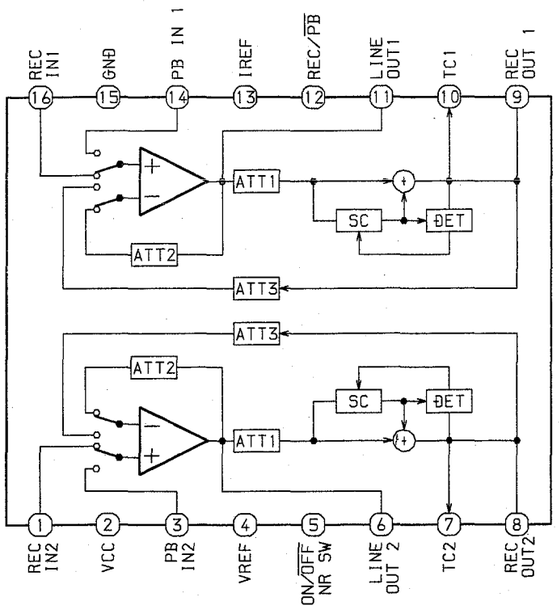
IC, LA1837



IC, BU2092F

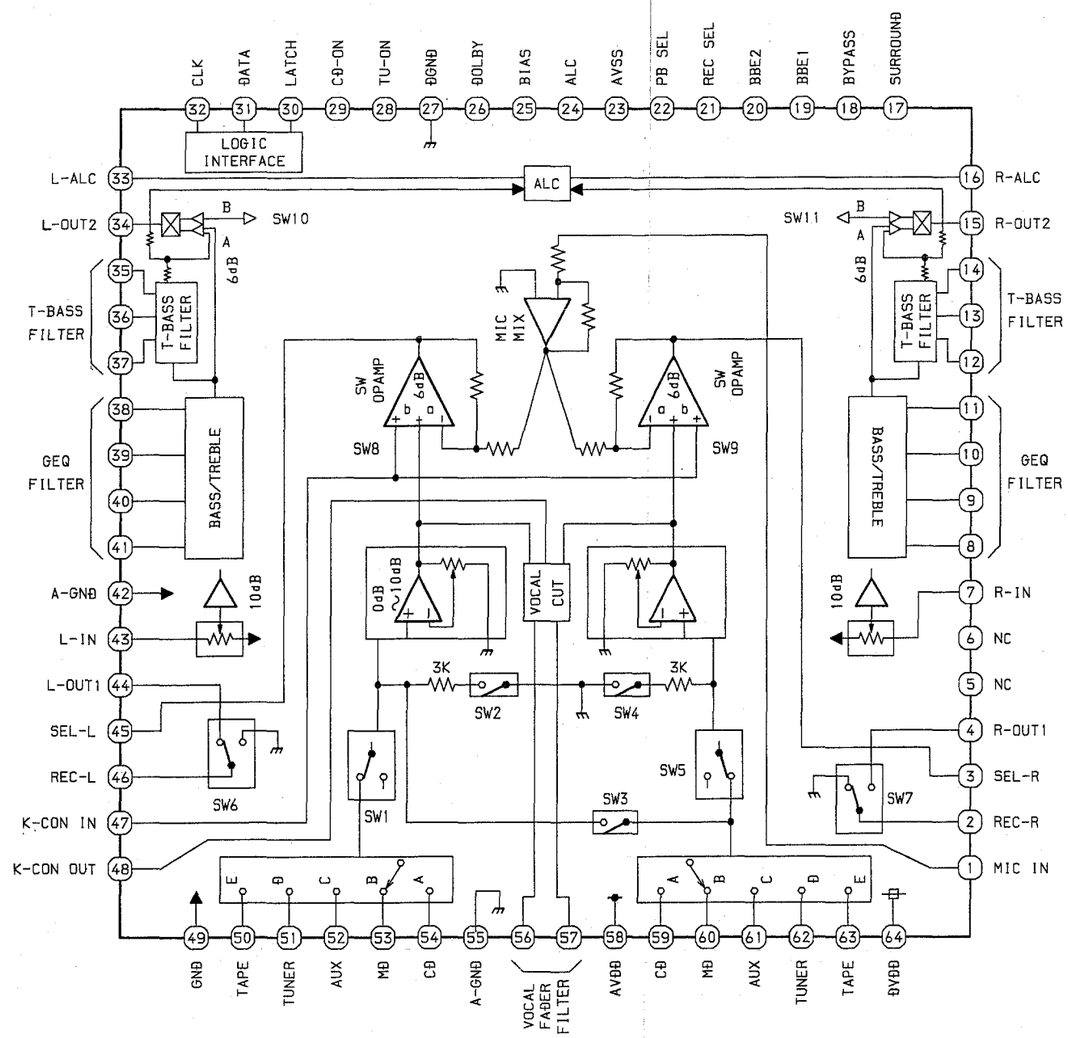


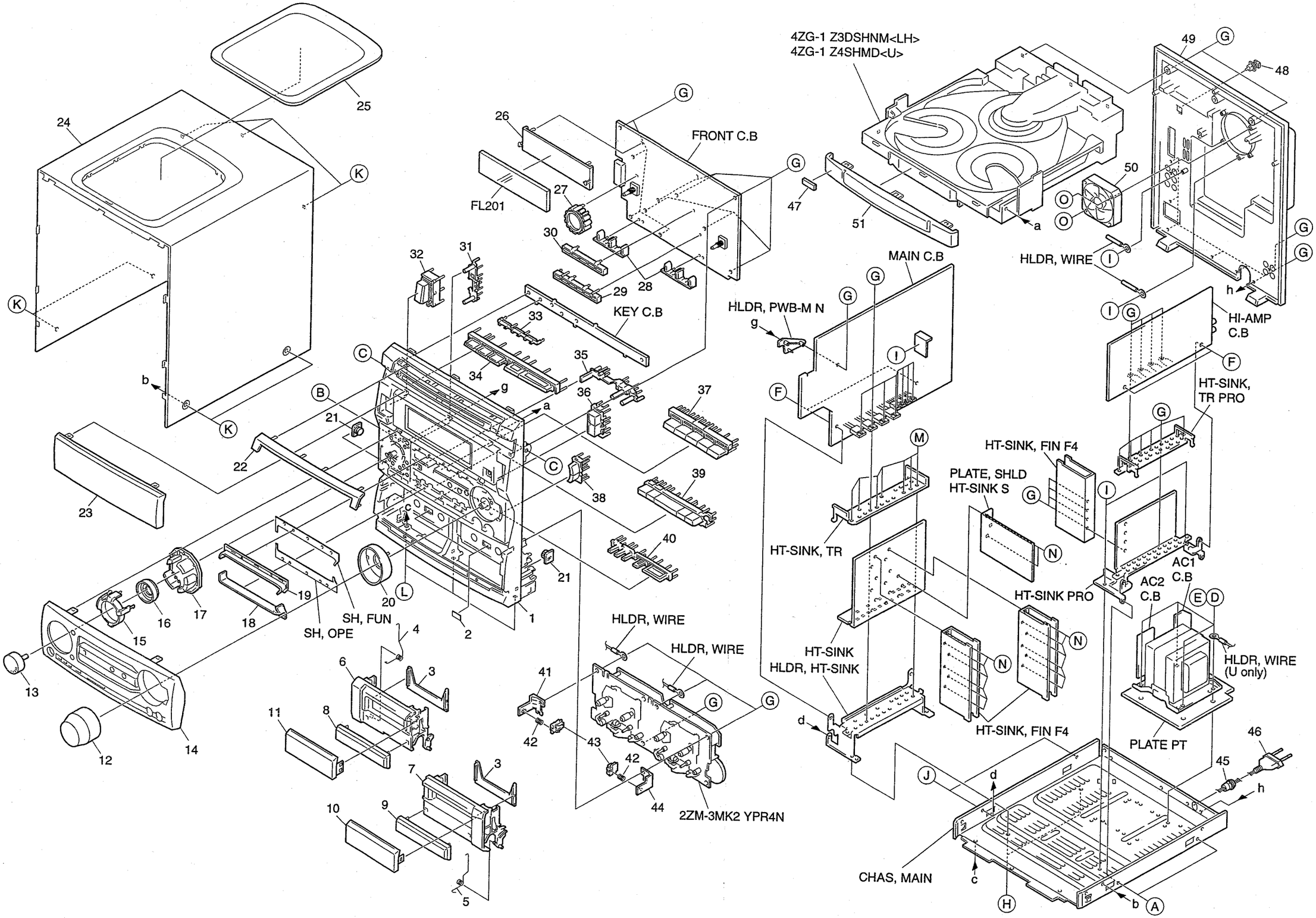
IC, CXA1553P



ATT:Attenuator
SC:Side Chain
ÐET:Ðetector

IC, M62445FP-601



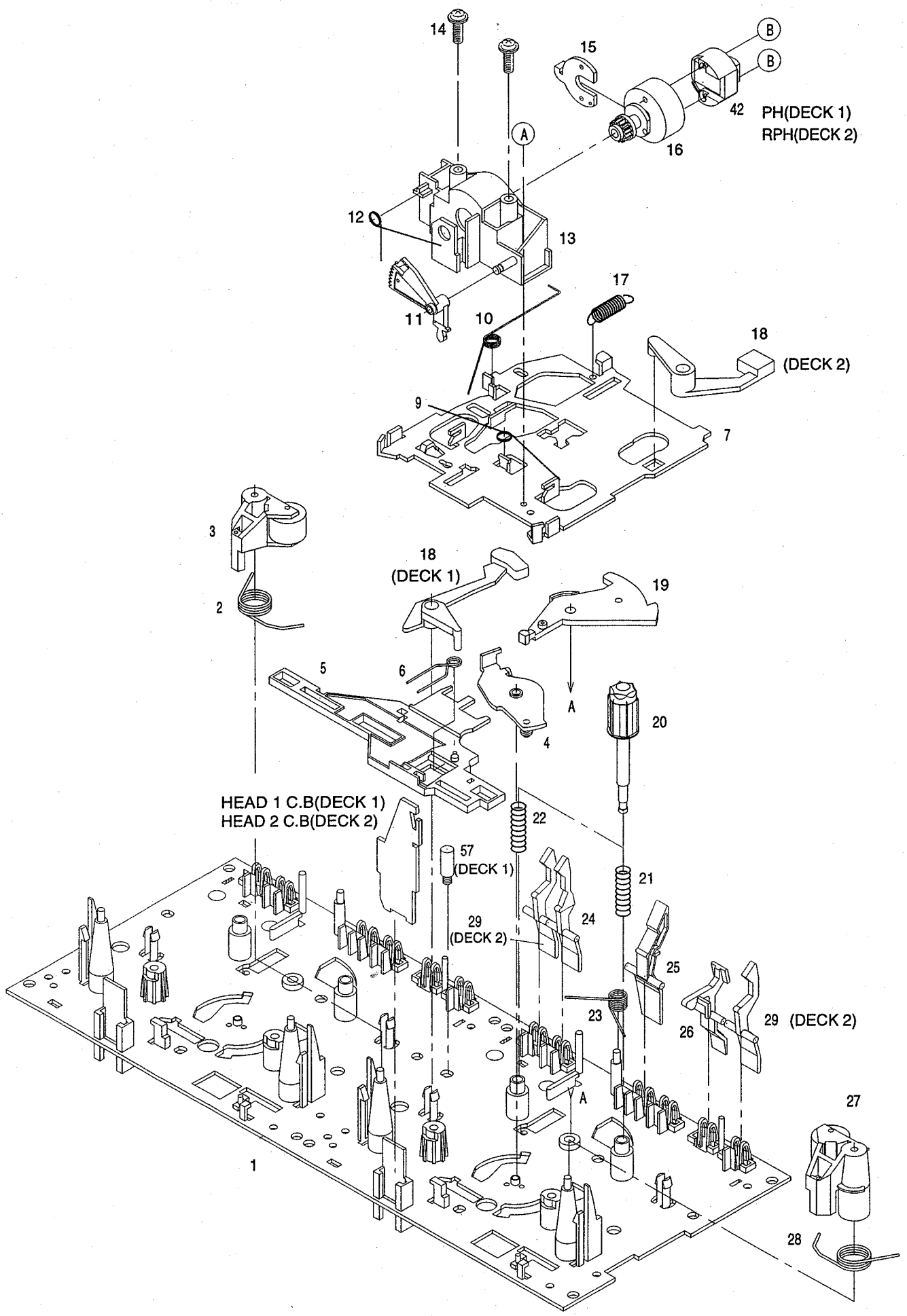

4ZG-1 Z3DSHNM<LH>
4ZG-1 Z4SHMD<U>
FRONT C.B
KEY C.B
MAIN C.B
HLDR, PWB-M N
HLDR, WIRE
HI-AMP C.B
HT-SINK, TR PRO
HT-SINK, FIN F4
PLATE, SHLD HT-SINK S
HT-SINK, TR
HT-SINK PRO
HT-SINK
HLDR, HT-SINK
AC1 C.B
AC2 C.B
HLDR, WIRE (U only)
PLATE PT
CHAS, MAIN
SH, FUN
SH, OPE
2ZM-3MK2 YPR4N

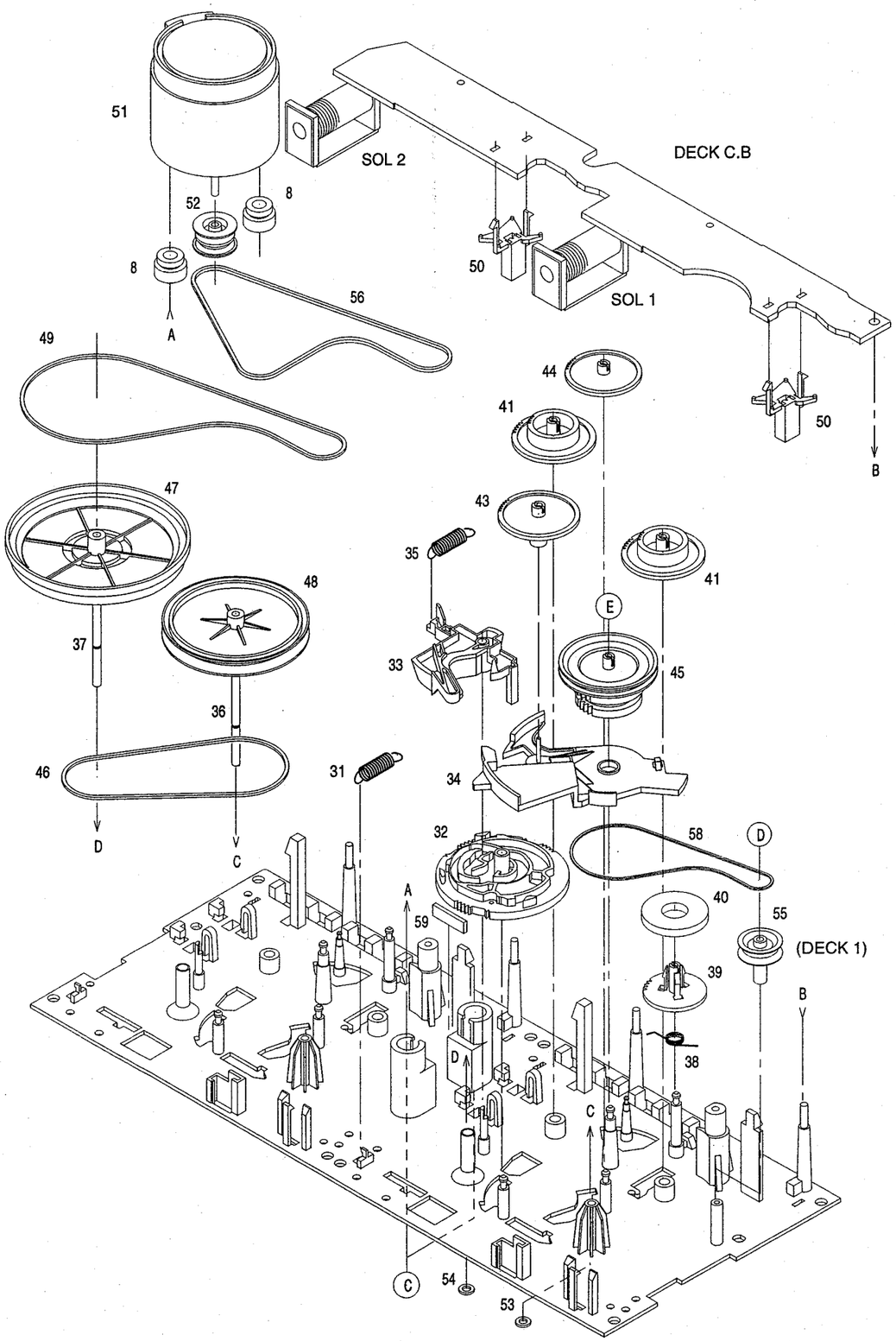
MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-NF5-002-010		CABI,FR H<LH>
1	88-NF5-001-010		CABI,FR U<U>
2	81-532-080-010		LABEL, CASS. COMPT
3	86-NF6-061-010		REFLECTOR,CASS
4	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
5	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
6	88-NF5-004-010		BOX,CASS 1U
7	88-NF5-005-010		BOX,CASS 2U
8	88-NF5-038-010		PANEL,CASS 1U
9	88-NF5-039-010		PANEL,CASS 2U
10	88-NF5-019-010		WINDOW,CASS 2
11	88-NF5-018-010		WINDOW,CASS 1
12	88-NF5-021-010		KNOB,RTRY VOL
13	88-NF5-022-010		KNOB,RTRY JOG
14	88-NF5-011-010		PANEL,FR U
15	88-NF5-043-010		PANEL,DSP
16	88-NF5-029-010		REFLECTOR,JOG
17	88-NF5-028-010		KEY,ENTER
18	88-NF5-030-010		REFLECTOR,OPE
19	88-NF5-031-010		REFLECTOR,FUN
20	88-NF5-032-010		RING,VOL
21	87-NF8-220-010		DMPR,150
22	88-NF5-017-010		PANEL,CD
23	88-NF5-015-010		WINDOW,DISP H<LH>
23	88-NF5-014-010		WINDOW,DISP U<U>
24	88-NF5-008-010		CABI,STEEL S
25	86-NF6-101-010		WINDOW TOP UL<U>
25	86-NF6-007-010		WINDOW,TOP<LH>
26	88-NF5-204-010		GUIDE,FL
27	88-NF5-205-010		GUIDE,ENTER
28	85-NF5-211-110		GUIDE,LED R
29	88-NF5-202-010		GUIDE,OPE
30	88-NF5-201-010		GUIDE,FUN
31	88-NF5-048-010		KEY,TIMER
32	88-NF5-035-010		KEY,POWER
33	88-NF5-206-010		GUIDE,CD
34	88-NF5-041-010		KEY,ASSY CD
35	88-NF5-027-010		KEY,DEMO
36	88-NF5-025-010		KEY,BBE
37	88-NF5-023-010		KEY,FUN
38	88-NF5-026-010		KEY,MIC
39	88-NF5-024-010		KEY,OPE
40	88-NF5-033-010		KEY,DOLBY
41	87-NF4-216-010		HLDR,LOCK 1
42	86-NF9-224-010		SPR-C,LOCK
43	82-NF5-229-010		PLATE,LOCK
44	87-NF4-217-010		HLDR,LOCK 2
45	87-085-185-010		BUSHING, AC CORD (E)<LH>
45	87-085-189-010		BUSHING, CORD (U)<U>
⚠ 46	87-050-053-010		AC CORD ASSY,U-2<U>
⚠ 46	87-050-079-010		AC-CORD ASSY,E<LH>
47	82-NE6-067-010		BADGE,AIWA 30N
48	84-ZG1-245-210		CAP,OPTICAL
49	88-NF5-072-010		CABI,REAR LHSTN<LH>
49	88-NF5-076-010		CABI,REAR UST<U>
50	87-A90-796-010		FAN,F614R-12MC-15-300MM<LH>
51	88-NF5-009-010		PANEL,TRAY U
A	87-721-096-410		QT2+3-10 GLD
B	87-723-096-410		QT2+3-10W/O SLOT BL
C	87-721-097-410		QT2+3-12 GLD
D	87-078-191-010		S-SCREW,IT+4-10<LH>
E	87-067-975-010		S-SCREW,IT+4-8<U>
F	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
G	87-067-703-010		TAPPING SCREW, BVT2+3-10
H	87-067-584-010		TAPPING SCREW, BVT2+3-6
I	87-067-579-010		TAPPING SCREW, BVT2+3-8
J	87-591-094-410		TAPPING SCREW, QIT+3-6
K	87-067-641-010		UTT2+3-8(W/O SLOT)BL
L	87-067-688-010		BVTT+3-6
M	87-067-758-010		BVT2+3-12 W/O SLOT
N	87-B10-090-010		BVIT3B+3-12 GOLD
O	87-067-822-010		BVT2+3-20 W/O SLOT<LH>

TAPE MECHANISM EXPLODED VIEW 1 / 1



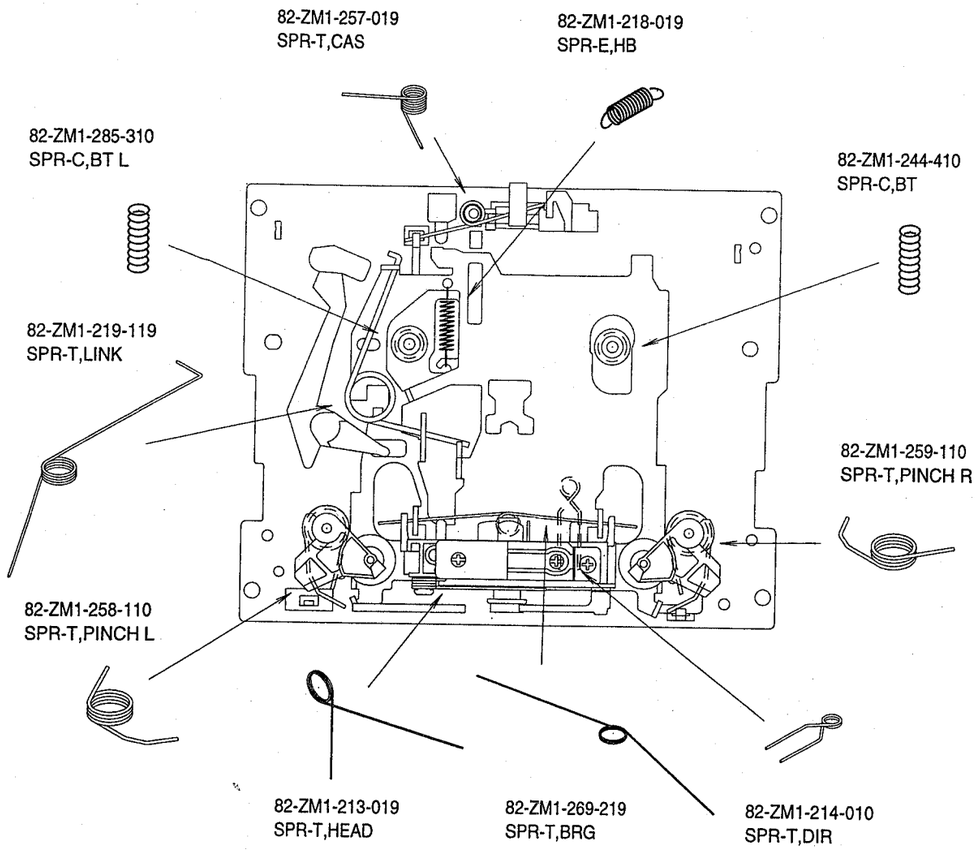


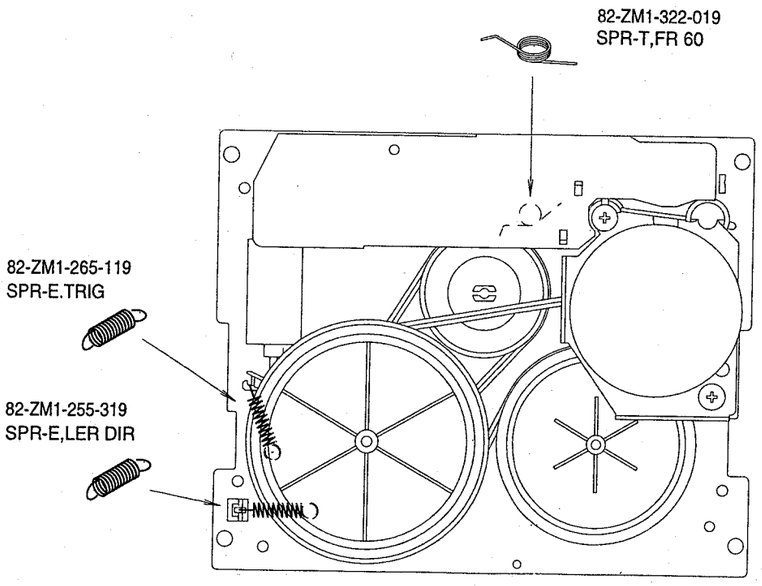
TAPE MECHANISM PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-341-110		LVR ASSY,PINCH L2
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	86-ZM4-206-010		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-110		LVR ASSY,PINCH R2
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-A90-319-010		HEAD,PH HADKH2 FPC
42	87-A90-320-010		HEAD,RPH HADKH5 FPC
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-110		FLY-WHL,R W(DECK 2)
47	82-ZM3-338-110		FLY-WHL,R3 W(DECK 1)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 2)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-335-210		PULLEY,COUPLER M3(DECK 1)
56	82-ZM3-337-010		BELT,SBU MOT 2
57	82-ZM3-339-010		SHAFT,COUPLER N3(DECK 1)
58	86-ZM1-206-010		BELT,MAIN L
59	82-ZM3-340-010		SH,BELT D2
A	85-ZM3-202-010		S-SCREW,TG
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW,2.16-6-0.4

SPRING APPLICATION POSITION



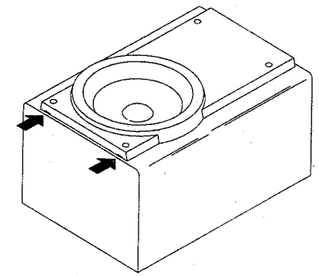


SPEAKER DISASSEMBLY INSTRUCTIONS

Type.1

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

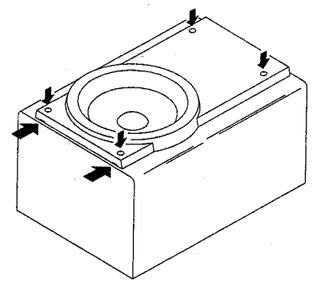
Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.2

グリルフレームを外し、4個のゴムキャプをマイナスドライバーで端の方から持ち上げて外すと中にビスが有りますので、ビスを取り外します。矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

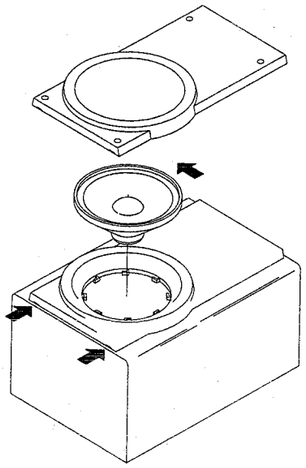
Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.3

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットの凹にマイナスドライバーを差し込んで、反時計方向に回転させスピーカーユニットを外してください。スピーカーユニット交換後は時計方向にクリック音がするまで、回転させて取り付けます。

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows arround speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



SX-WNA909 (YUSTNL), SX-WNS909 (YLSTNL)
SPEAKER PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-NS5-001-010		PANEL,FR R
2	88-NS5-002-010		PANEL,FR L
3	88-NS5-003-010		PANEL,BA
4	88-NS5-004-010		PANEL,DUCT
5	88-NS5-005-010		PANEL,COVER
6	88-NS5-006-010		GRILLE,FRAME ASSY A<YLSTNL>
6	88-NS5-010-010		GRILLE,FRAME ASSY B<YUSTNL>
7	88-NS5-602-010		SPKR,W 200
8	88-NS5-604-010		SPKR,M 120
9	88-NS5-605-010		SPKR,T 60
10	88-NS5-610-010		CORD,SPKR
11	88-NS5-611-010		CORD,SPKR B/L
12	88-NS5-609-010		SPKR, CERAMIC

SX-R285 (YLSTNCC)
SPEAKER PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-YS1-004-010		GRILLE FRAME ASSY
2	81-VSA-009-010		CORD BUSH
3	87-YS6-002-010		SPKR, CORD Y
4	87-YS9-601-010		SPKR, SPKR,100

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-NF5-902-010		IB,LH(ESP)M<LH>
1	88-NF5-903-010		IB,U(ESF)M<909USTNM>
1	88-NF5-913-010		IB,U(ESF)I<909UST>
2	87-006-225-010		AM LOOP ANT NC2
3	87-043-115-010		FEEDER-ANT,FM
⚠ 4	87-A90-312-010		PLUG,CONVERSION WTN-1157R1<LH>
5	87-NF4-655-010		RC UNIT,RC-7AS08

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G－ －	
G－ －	
G－ －	

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9301978, 750038

Tokyo Japan

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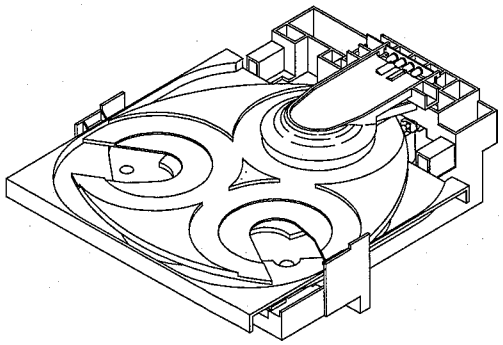
Printed in Singapore

aiwa

aiwa SERVICE

VIDE-V22059

4ZG-1Z3
4ZG-1Z4



CD MECHANISM

• BASIC CD MECHANISM: KSM-2131BAM
3ZG-2 E1
KSM-2131FAM

• TYPE: English

SERVICE MANUAL

RENEWAL MANUAL

BASIC NAME	DERIVATION NAME							
4ZG-1Z3	D	—	—	—	—	—	—	—
	D	DL	SH	—	—	—	—	—
4ZG-1Z4	D	DL	SH	MD	—	—	—	—

NOTE : 4ZG-1Z3 have the same BASIC NAME but use the different mechanisms.

- This Service Manual has various derivation.Derivation name is indicated by the Service Manual for each model.
- This Service Manual include modification parts both 09-983-249-3C1 and 09-983-249-3OT(OLD).

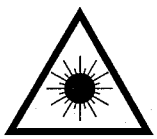
S/M Code No 09-983-249-30T

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstÂling ved Âbning, nÂr sikkerhedsafbrydere er ude af funktion. UndgÂ udsÊ ttelse for strÂling.

VAROITUS!

Laiteen K%ytt%aminen muulla kuin t%ss%ak%ytt^ ohjeessa mainitulla tavalla saattaa altistaa k%yt-t%j%a turvallisuusluokan 1 ylitt%av%alle n%akym%tt^ m%alle lasers%teilylle.

VARNING!

Om apparaten anv%ands pÂ annat s%tt %a vad som specificeras i denna bruksanvising, kan anv%andaren uts%ttas f^ r osynling laserstrÂlning, som ^ verskrider gr%asen f^ r laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

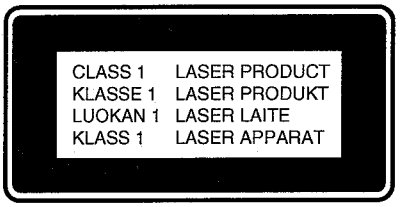
ATTENTION

L?utilisation de commandes, rÈglages ou procÈdures autres que ceux spÈcifiÈs peut entraÓner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstÂling ved Âbning, nÂr sikkerhedsafbrydereer ude af funktion. UndgÂ udsÊ ttelse for strÂling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

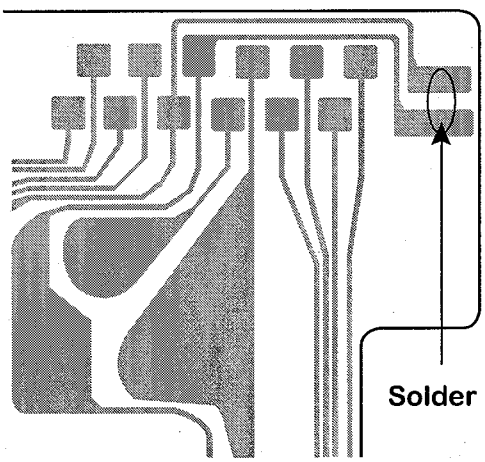


Precaution to replace Optical block (KSS-213B/213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

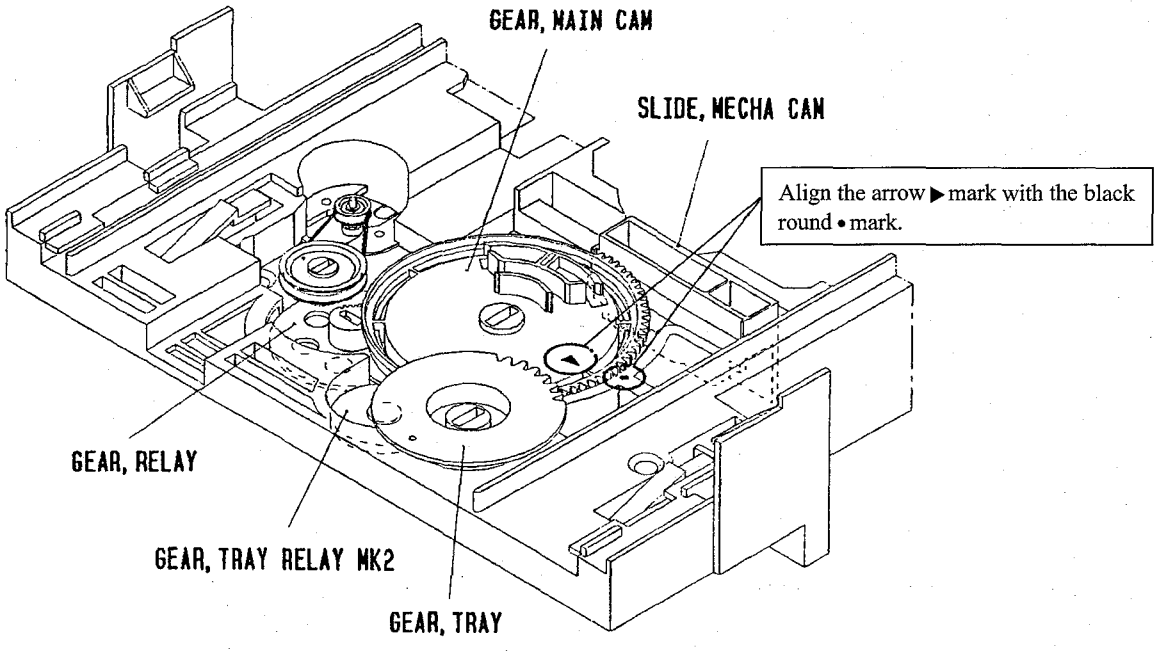
PICK-UP Assy P.W.B



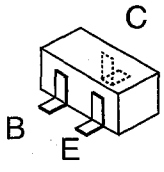
How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

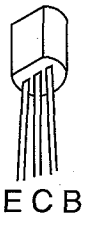
Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



TRANSISTOR ILLUSTRATION



2SA1235
2SC3052
DTC144TK
RT1N141C



2SA1318
2SD655
KTA1266

This is the SERVICE MANUAL for the BASIC CD MECHANISM of BASIC NAME: 4ZG-1. This BASIC NAME includes the following models as shown under the SUFFIX name: DERIVATION NAME. Please use this manual with the separate SERVICE MANUAL for DERIVATION NAME.

BASIC CD MECHANISM: 4ZG-1Z3 DSH

SUFFIX
(DERIVATION NAME)

BASIC NAME: 4ZG-1Z3 (THE 3rd SANYO IC MODEL)
4ZG-1Z4 (THE 4th SANYO IC MODEL)

BASIC NAME	DERIVATION NAME							
4ZG-1Z3	D	—	—	—	—	—	—	—
	D	DL	SH	—	—	—	—	—
4ZG-1Z4	D	DL	SH	MD	—	—	—	—

NOTE : 4ZG-1Z3 have the same BASIC NAME but use the different mechanisms.

DERIVATION NAME

D: Digital output function
DL: Digital output function (CD WINDOW Flash function LOW END Type)
MD: Digital output for Mini Disc
SH: Pick up equipped with shutter

MODEL NO. 4ZG-1Z3 (D)

ELECTRICAL MAIN PARTS LIST

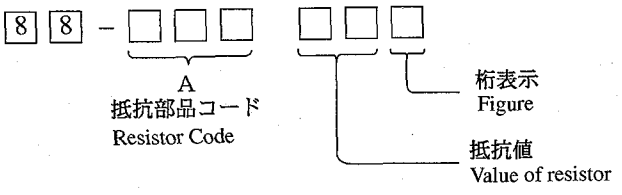
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-446-010		C-IC,LA9241ML
	87-A20-459-010		C-IC,LC78622ED
	87-A20-445-010		IC,BA5936
TRANSISTOR			
	89-113-187-080		TR,2SA1318TU
	87-026-295-080		C-TR,DTC144TK
	87-A30-076-080		C-TR,2SC3052F
	89-406-554-580		TR,2SD655DE
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-075-080		C-TR,2SA1235F
DIODE			
	87-002-564-080		DIODE,1SS133-RA
3CD C.B			
	84-ZG1-244-210		CABI,OPTICAL
C11	87-012-393-080		C-CAP,S 0.22-16 K W5R CM/CB
C12	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C13	87-016-369-080		C-CAP,S 0.033-25 K B
C14	87-A10-201-080		C-CAP,S 0.33-16 K B
C15	87-010-590-080		C-CAP,S 0.015-16 K R
C16	87-016-369-080		C-CAP,S 0.033-25 K B
C17	87-010-181-080		C-CAP,S 1800P-50 K B
C18	87-016-369-080		C-CAP,S 0.033-25 K B
C19	87-010-198-080		C-CAP,S 0.022-25 K B
C20	87-010-178-080		C-CAP,S 1000P-50 K B
C21	87-012-393-080		C-CAP,S 0.22-16 K W5R CM/CB
C22	87-016-083-080		C-CAP,S 0.15-16 K R
C23	87-010-197-080		C-CAP,S 0.01-25 K B
C24	87-010-186-080		C-CAP,S 4700P-50 K B
C25	87-010-400-040		CAP,E 0.47-50 SME
C26	87-010-322-080		C-CAP,S 100P-50 J CH
C27	87-010-382-040		CAP,E 22-25 SME
C28	87-010-403-040		CAP,E 3.3-50 SME
C29	87-010-184-080		C-CAP,S 3300P-50 K B
C31	87-010-186-080		C-CAP,S 4700P-50 K B
C32	87-010-152-080		C-CAP,S 8P
C33	87-016-081-080		C-CAP,S 0.1-16 K R
C35	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C37	87-010-405-080		CAP,E 10-50 M SME
C38	87-010-263-080		CAP,E 100-10 SME
C39	87-010-189-020		C-CAP,S 8200P-50 K B
C40	87-010-401-080		CAP,E 1-50 M SME
C41	87-016-081-080		C-CAP,S 0.1-16 RK
C42	87-010-263-080		CAP,E 100-10 SME
C43	87-010-197-080		C-CAP,S 0.01-25 K B
C44	87-010-263-080		CAP,E 100-10 SME
C46	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C47	87-010-260-080		CAP,E 47-25 SME
C48	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C49	87-010-404-080		CAP,E 4.7-50 M SME
C50	87-010-197-080		C-CAP,S 0.01-25 K B
C51	87-010-263-040		CAP,E 100-10 M SME
C52	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C101	87-016-081-080		C-CAP,S 0.1-16 K R
C102	87-016-081-080		C-CAP,S 0.1-16 K R
C103	87-010-321-080		C-CAP,S 82P-50 J CH
C104	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C105	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C109	87-010-197-080		C-CAP,S 0.01-25 K B
C111	87-010-312-080		C-CAP,S 15P
C112	87-010-154-080		C-CAP,S 10P-50 D CH
C113	87-010-322-080		C-CAP,S 100P-50 J CH
C115	87-010-404-080		CAP,E 4.7-50 M SME
C116	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C117	87-010-263-040		CAP,E 100-10 M SME
C118	87-010-178-080		C-CAP,S 1000P-50 K B
C119	87-010-154-080		C-CAP,S 10P-50 D CH
C120	87-018-209-080		CAP, CER 0.1-50V
C121	87-010-403-080		CAP,E 3.3-50 M SME
C122	87-010-403-080		CAP,E 3.3-50 M SME
C123	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C124	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C131	87-010-382-080		CAP,E 22-25 M SME
C191	87-010-263-040		CAP,E 100-10 M SME
C301	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C302	87-010-382-080		CAP,E 22-25 M SME
C303	87-010-260-080		CAP,E 47-25 SME
C501	87-010-381-080		CAP,E 1000-16 SMG
C502	87-010-197-080		C-CAP,S 0.01-25 K B
C504	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C505	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C506	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C507	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C509	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C510	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C603	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C610	87-010-405-080		CAP,E 10-50 M SME
C611	87-010-405-080		CAP,E 10-50 M SME
C701	87-010-405-080		CAP,E 10-50 M SME
C705	87-010-197-080		C-CAP,S 0.01-25 K B
C706	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C711	87-010-322-080		C-CAP,S 100P-50 J CH
C712	87-010-322-080		C-CAP,S 100P-50 J CH
C713	87-010-322-080		C-CAP,S 100P-50 J CH
C901	87-010-260-080		CAP,E 47-25 SME
C902	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
CON3	84-ZG1-648-010		CONN ASSY,6P
FC1	85-NFT-611-110		FF-CABLE 16P-1.0
FC4	84-ZG1-614-210		F-CABLE,5P 1.25 210MM
L11	87-005-602-080		COIL,10UH J LAV35
L101	87-005-614-080		COIL,100UH
L102	87-005-602-080		COIL,10UH J LAV35
LED901	87-A40-123-010		LED,SLZ-8128A-01-B
M601	87-045-305-010		MOT,RF-500TB
SFR101	87-024-437-080		SFR100K,RH063EC
SW701	87-036-109-010		SW,MICRO SPPB61
SW702	87-036-109-010		SW,MICRO SPPB61
X101	87-A70-046-010		VIB,XTAL 16.934MHZ
LED C.B			
LED701	87-A40-316-080		LED,SLR-56PCT31 GRN
LED702	87-A40-268-080		LED,SLH-56DCT31 ORN
LED703	87-A40-268-080		LED,SLH-56DCT31 ORN
LED704	87-A40-316-080		LED,SLR-56PCT31 GRN
T-T C.B			
C401	87-018-214-080		CAP,TC U 0.1-50 Z F SA
M401	87-045-364-010		MOT,BCH3B
PS401	87-026-573-010		SNSR,PHOTO GP1S53
MOTOR C.B			
M2	9X-262-513-210		SLED MOTOR ASSY
PIN3	91-564-722-110		CONNECTOR 6P
SW1	91-572-085-110		LEAF SW

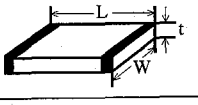
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



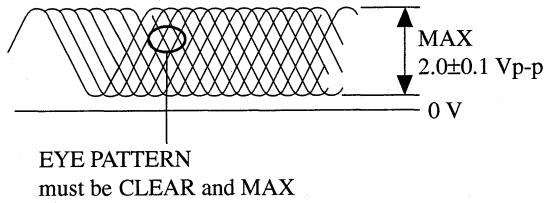
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm) 外形 / Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

WAVE FORM

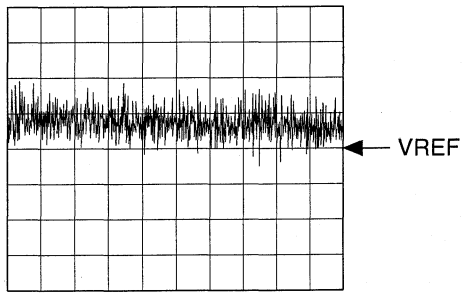
① IC11 Pin ㊶ (RFSM)

VOLT/DIV: 0.5V
TIME/DIV: 1μS



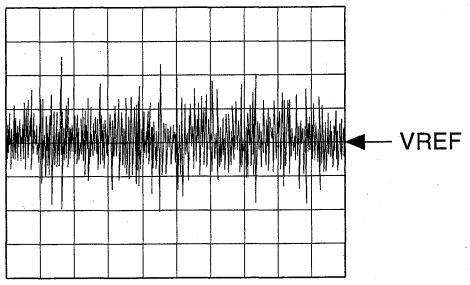
② IC11 Pin ⑯ (FD)

VOLT/DIV: 100mV
TIME/DIV: 1mS



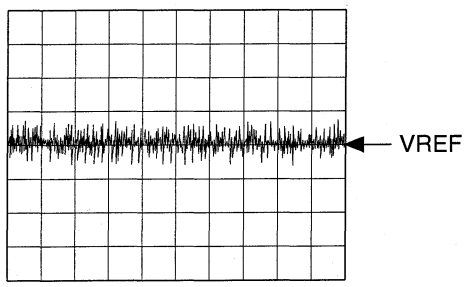
③ IC11 Pin ⑮ (TO)

VOLT/DIV:100mV
TIME/DIV: 1mS



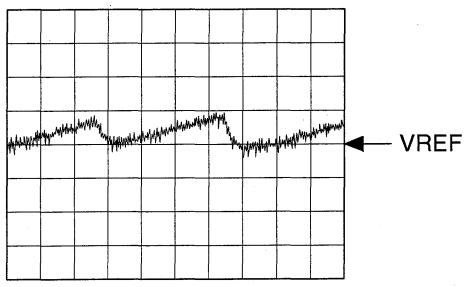
④ IC11 Pin ㉗ (SPD)

VOLT/DIV: 100mV
TIME/DIV: 1mS



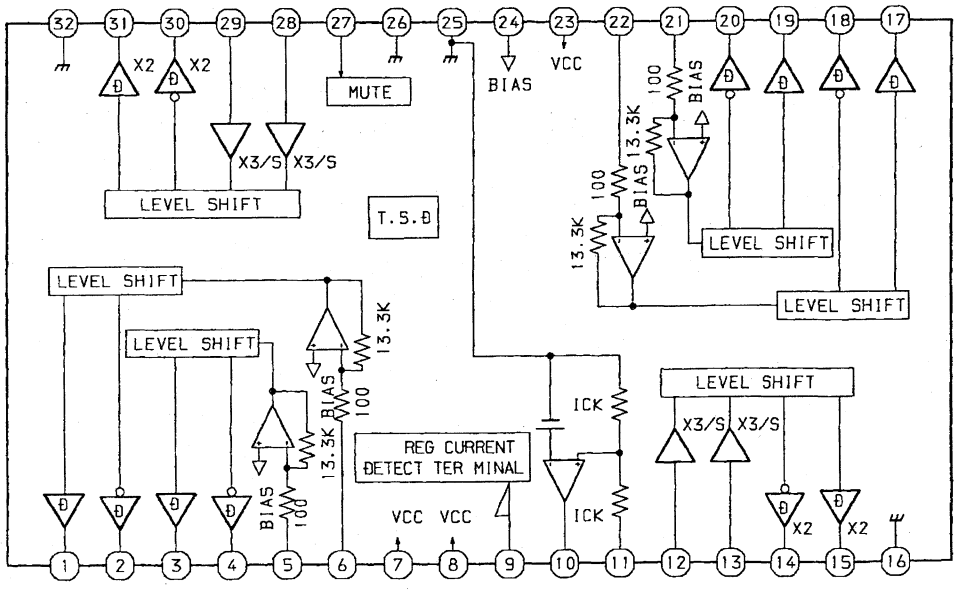
⑤ IC11 Pin ㉙ (SLD)

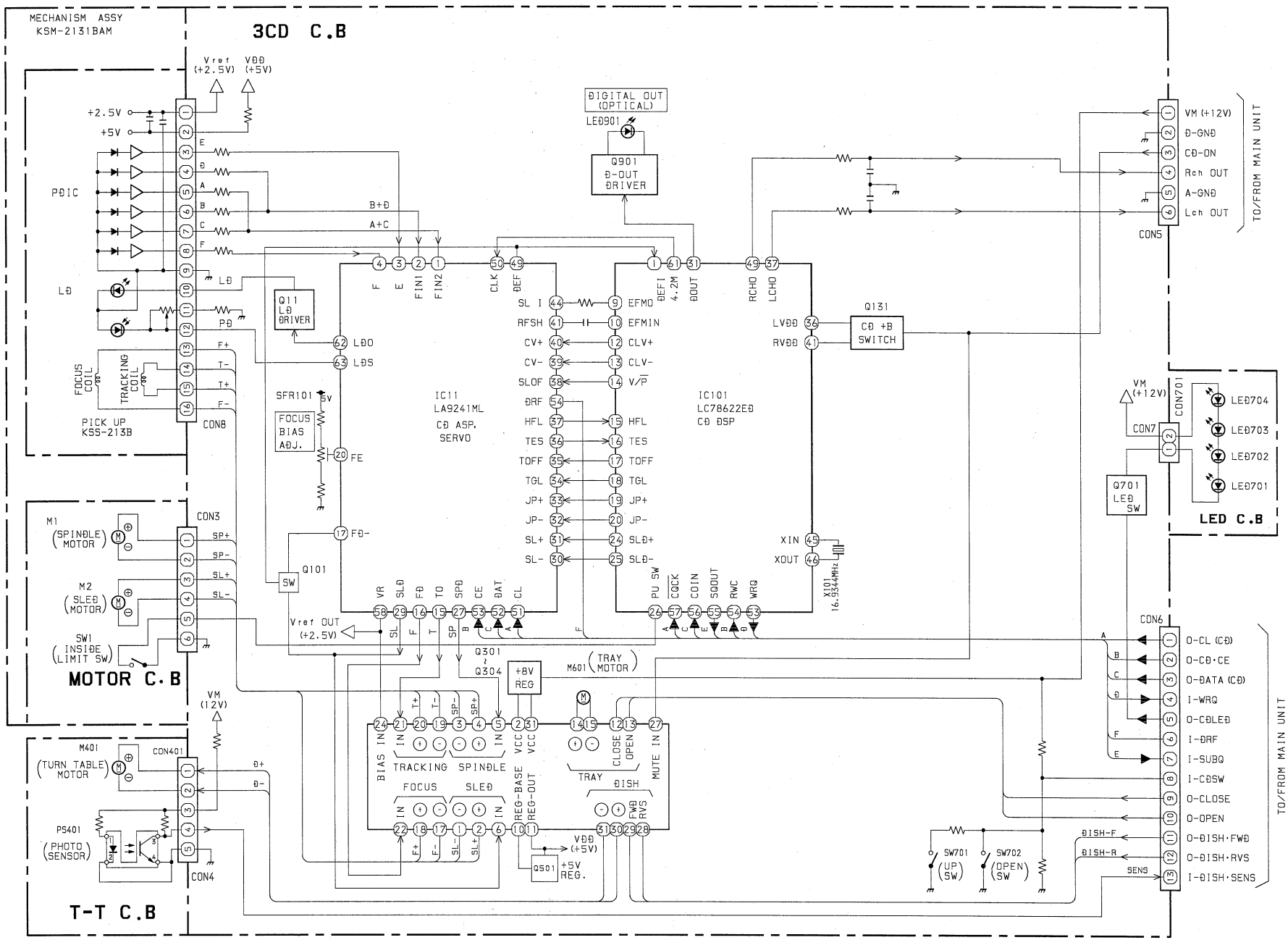
VOLT/DIV: 200mV
TIME/DIV: 2S

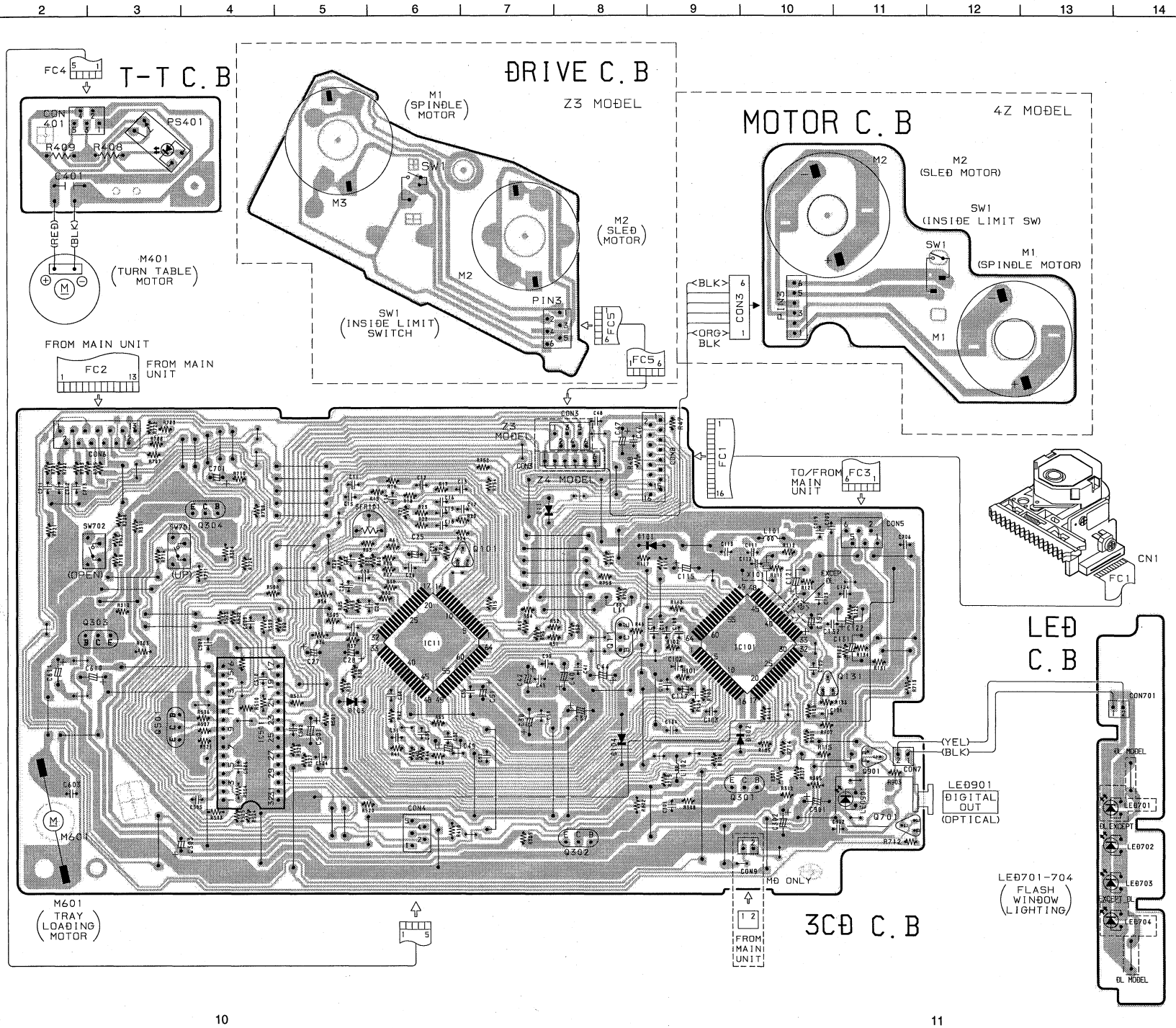


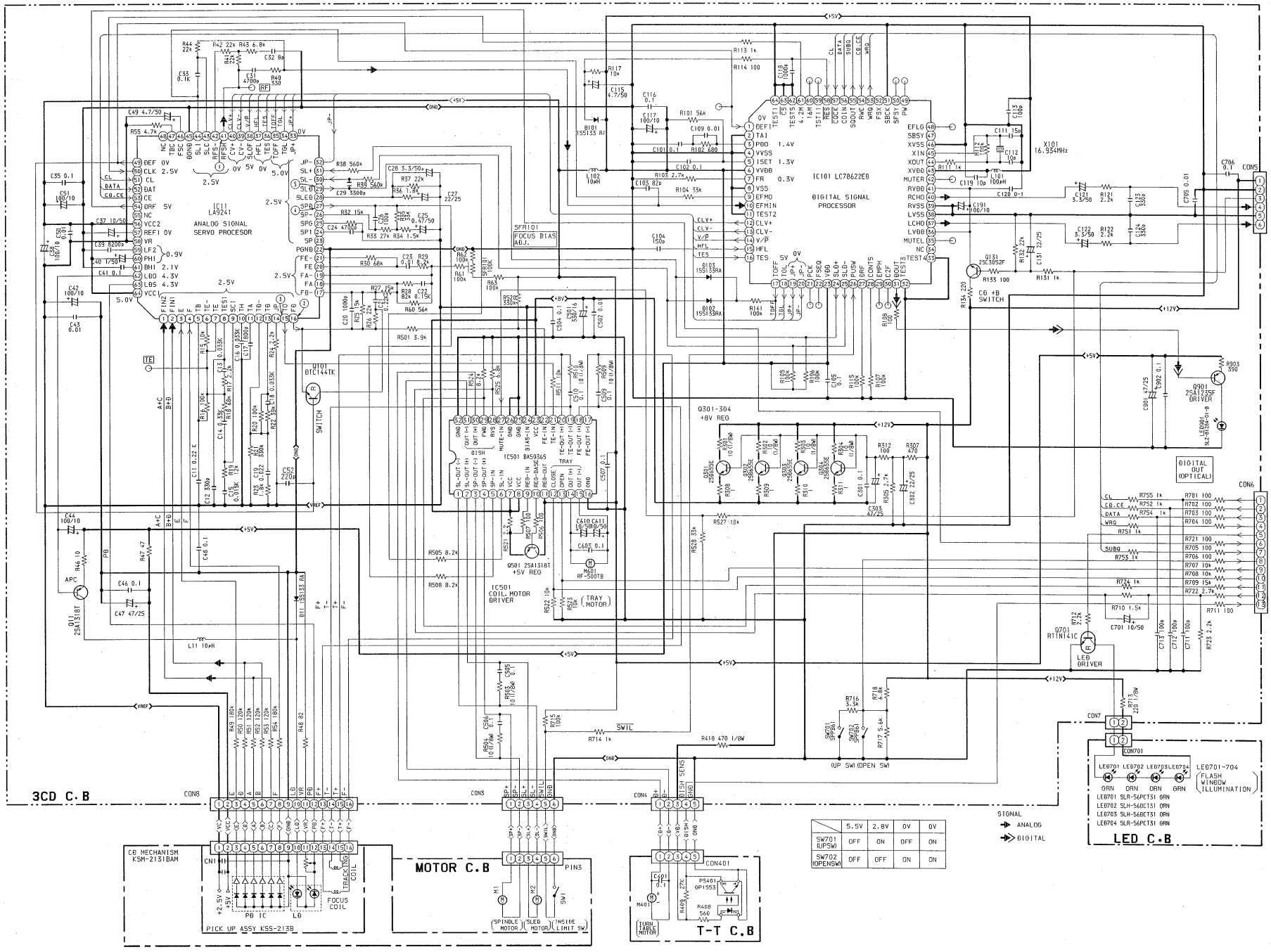
IC BLOCK DIAGRAM

IC, BA5936




MECHANISM ASSY
KSM-2131BAM
3CD C.B
PICK UP
KSS-213B
CON8
MOTOR C.B
CON3
M1
(SPINDLE MOTOR)
M2
(SLED MOTOR)
SW1
(INSIDE LIMIT SW)
T-T C.B
CON401
M401
(TURN TABLE MOTOR)
PS401
(PHOTO SENSOR)
CON4
IC11
LA9241ML
CD ASP, SERVO
IC101
LC78622ED
CD DSP
DIGITAL OUT
(OPTICAL)
LED901
Q901
D-OUT
DRIVER
Q11
LD
DRIVER
Q131
CD +B
SWITCH
SFR101
FOCUS
BIAS
ADJ.
Q101
SW
Q301
~
Q304
+8V
REG
Q501
+5V
REG.
M601
(TRAY MOTOR)
TRACKING
SPINDLE
FOCUS
SLED
TRAY
DISH
SW701
(UP SW)
SW702
(OPEN SW)
X101
16.9344MHz
CON5
VM (+12V)
D-GND
CD-ON
Rch OUT
A-GND
Lch OUT
TO/FROM MAIN UNIT
CON701
CON7
LED704
LED703
LED702
LED701
LED C.B
Q701
LED
SW
CON6
O-CL (CD)
O-CD·CE
O-DATA (CD)
I-WRQ
O-CDLED
I-DRF
I-SUBQ
I-CDSW
O-CLOSE
O-OPEN
O-DISH·FWD
O-DISH·RVS
I-DISH·SENS
TO/FROM MAIN UNIT


T-T C.B
FC4
CON401
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE MOTOR)
DRIVE C.B
Z3 MODEL
M1
(SPINDLE MOTOR)
SW1
M3
M2
(SLED MOTOR)
M2
PIN3
SW1
(INSIDE LIMIT SWITCH)
FC5
MOTOR C.B
4Z MODEL
M2
(SLED MOTOR)
SW1
(INSIDE LIMIT SW)
M1
(SPINDLE MOTOR)
<BLK>
<ORG>
BLK
CON3
FROM MAIN UNIT
FC2
FROM MAIN UNIT
FC1
TO/FROM MAIN UNIT
FC3
CN1
Z3 MODEL
Z4 MODEL
SW702
(OPEN)
(UP)
Q304
Q303
Q302
Q301
M601
M601
(TRAY LOADING MOTOR)
FROM MAIN UNIT
MD ONLY
3CD C.B
LED
C.B
(YEL)
(BLK)
LED901
DIGITAL OUT
(OPTICAL)
CON701
LED701
LED702
LED703
LED704
LED701-704
(FLASH WINDOW LIGHTING)



	5.5V	2.8V	0V	0V
SW701 (UP SW)	OFF	ON	OFF	ON
SW702 (OPEN SW)	OFF	OFF	ON	ON

IC, LA9241M

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE–	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES "Track Error Sense" comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD–	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD–	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD– and FA– pins.
19	FA–	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE–	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	AGND	—	Analog signal GND.
23	NC	—	No connection.
24	SP	O	Single ended output of the CV+ and CV– pin input signal.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP–	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL–, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP–, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.

Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	"High Frequency Level" is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV–, CV+	I	CLV error signal input pin from DSP.
41	RFSM	O	RF output pin.
42	RFS–	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	"Slice Level Control" is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	"Tracking Balance Control" EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	"Detect RF" RF level detector output.
55	FSS	I	"Focus Search Select" focus search mode (± search/+ search) select pin.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REFI	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDD	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

IC, LC78622E

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISET	I		Pin to which external resistor adjusting the PD0 output current.
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment.
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	TEST2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLV–	O	Disc motor control output. Three level output is possible using command.	
14	V/$\overline{P}$	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP–	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in.	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and thesync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24-28	SL+ - PUIN	I/O	General purpose input/output pin 1 to 5.	The pin is controlled by the serial data command from microprocessor. When the pin is not used, set the pin to the input terminal and connect to 0V, or alternately set the pin to output terminal and leave the pin open.
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H.	
30	C2F	O	C2 flag output pin.	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format).	
32, 33	TEST3, TEST4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin.
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin.

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single and dual correction monitoring pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output pin.
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby.
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator.
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{\text{CQCK}}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	$\overline{\text{RES}}$	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	TST11	O	Test signal output pin. Use this pin as open (normally L output).
60	16M	O	16.9344 MHz output pin.
61	4.2M	O	4.2336 MHz output pin.
62	TEST5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{\text{CS}}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	TEST1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

Note: The same potential must be applied to the respective power supply terminals. (VDD, VVDD, LVDD, RVDD, XVDD)

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

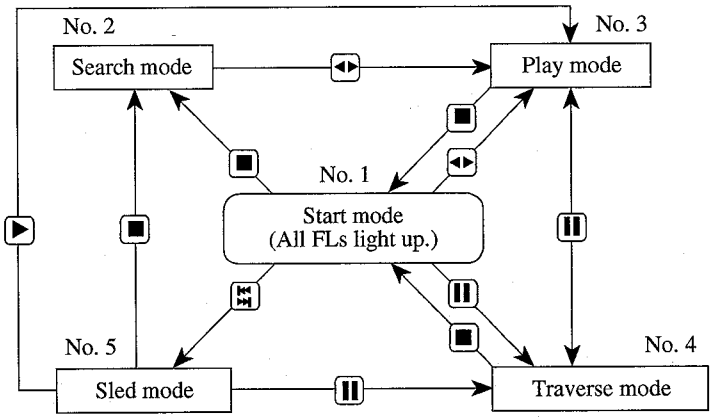
Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	All lamps light	• Test mode is activated.	• FL display check (All displays light.)
Search mode No.2	■key		• Laser diode turns always ON. (CD block power is ON.) • Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	• APC circuit check • Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.) FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◀▶key		• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check FOK/FZC
Traverse mode No.4	⏸ key		• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) adjustment
Sled mode No.5	⏮key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

*NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

*NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ⏸ status is active. If they are pressed, playback will not be possible after the ⏸ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ⏸ status, press the ■ key and return to the start mode (No.1).

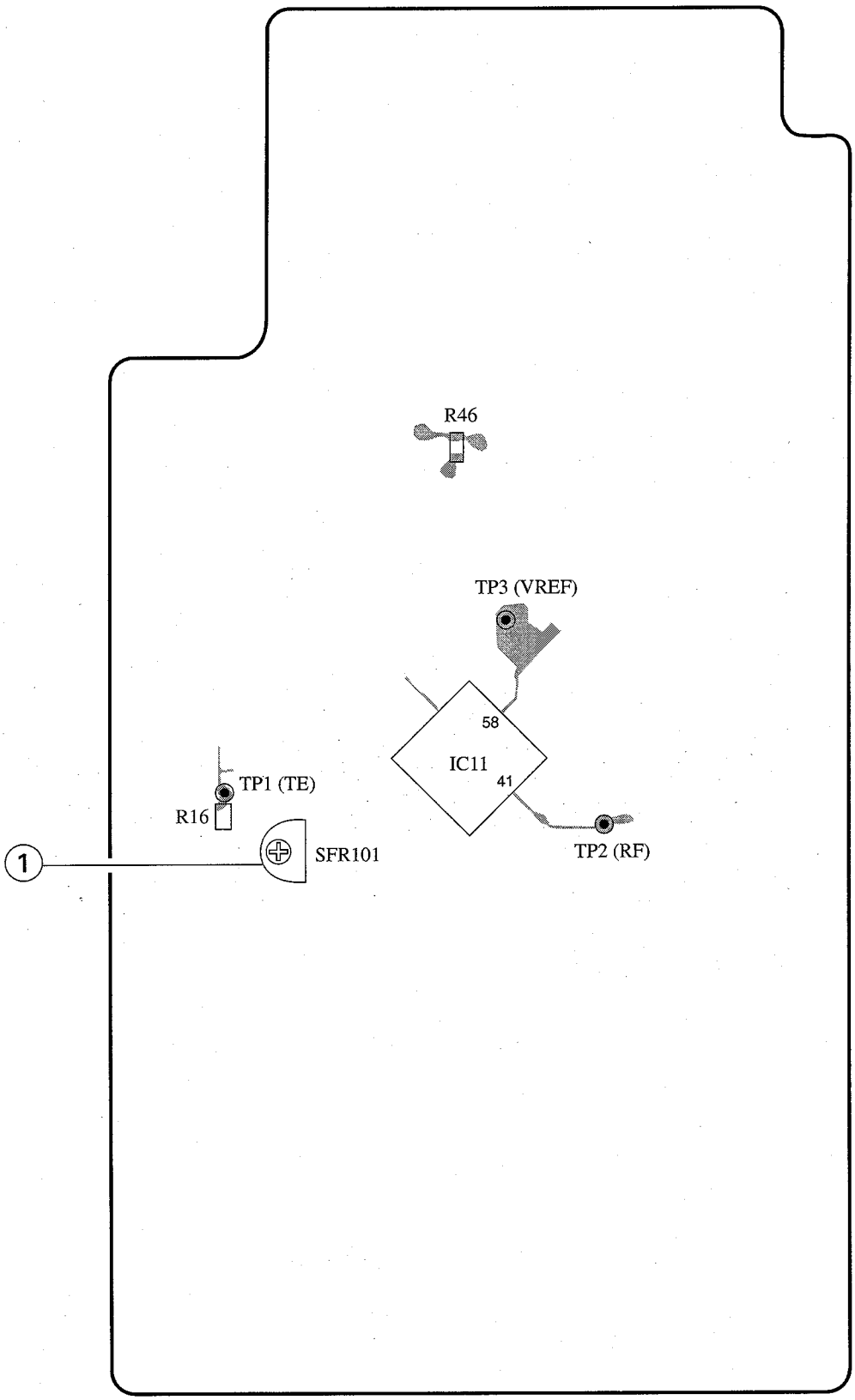
*NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the fi or fl keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



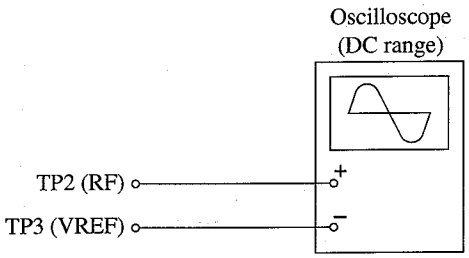
If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

3CD C.B (PATTERN SIDE)

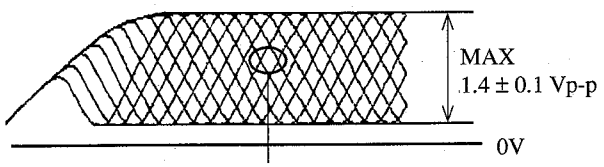


Note: ● Connect a probe (10: 1) of the oscilloscope test point for adjustment.
● Connect ground (⊖) terminal of oscilloscope probe to TP3 (VREF) for all adjustment.

1. Focus Bias Adjustment
Make the focus bias adjustment when replacing and repairing the optical block.



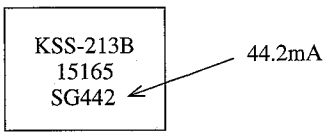
1) Connect an oscilloscope to test points TP2 (RF) and TP3 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second program.
4) Adjust SFR101 so that RF signal of the test point TP2 (RF) is MAX and CLEARREST.



EYE PATTERN
must be CLEAR and MAX

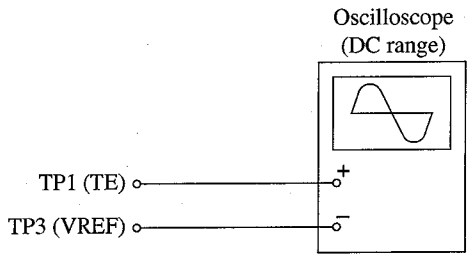
VOLT/DIV: 0.5V
TIME/DIV: 0.5μS

Note: The current of the laser signal can be checked with the voltages on both sides of R46 (voltage across 10Ω). The difference for the specified value shown on the label must be within ± 6.0mA.

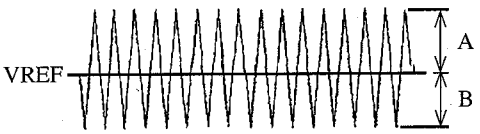


$$\text{Laser current Iop} = \frac{\text{Voltage across R46}}{10\Omega}$$

2. Tracking Balance Check



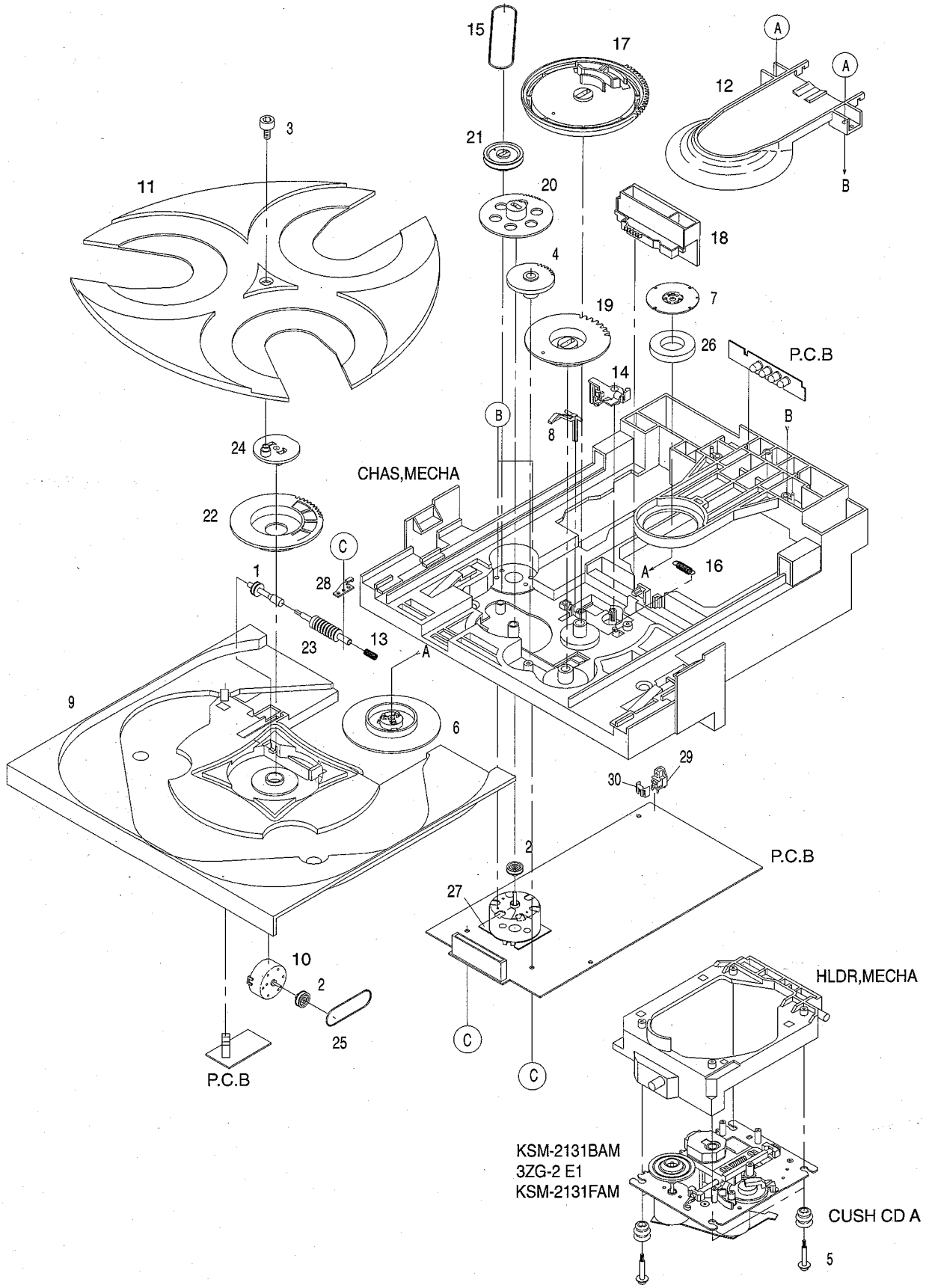
1) Connect an oscilloscope to test points TP1 (TE) and TP3 (VREF).
2) Start up the CD test mode.
3) Insert the test disc TCD-782 (YEDS-18) and enter the traverse mode of the CD test mode.
4) Confirm that the traverse waveform on an oscilloscope is vertically symmetrical as shown in the figure below.
5) After confirming the waveform, release the CD test mode.



A=B

VOLT/DIV: 20mV
TIME/DIV: 1mS

MECHANICAL EXPLODED VIEW 1/1

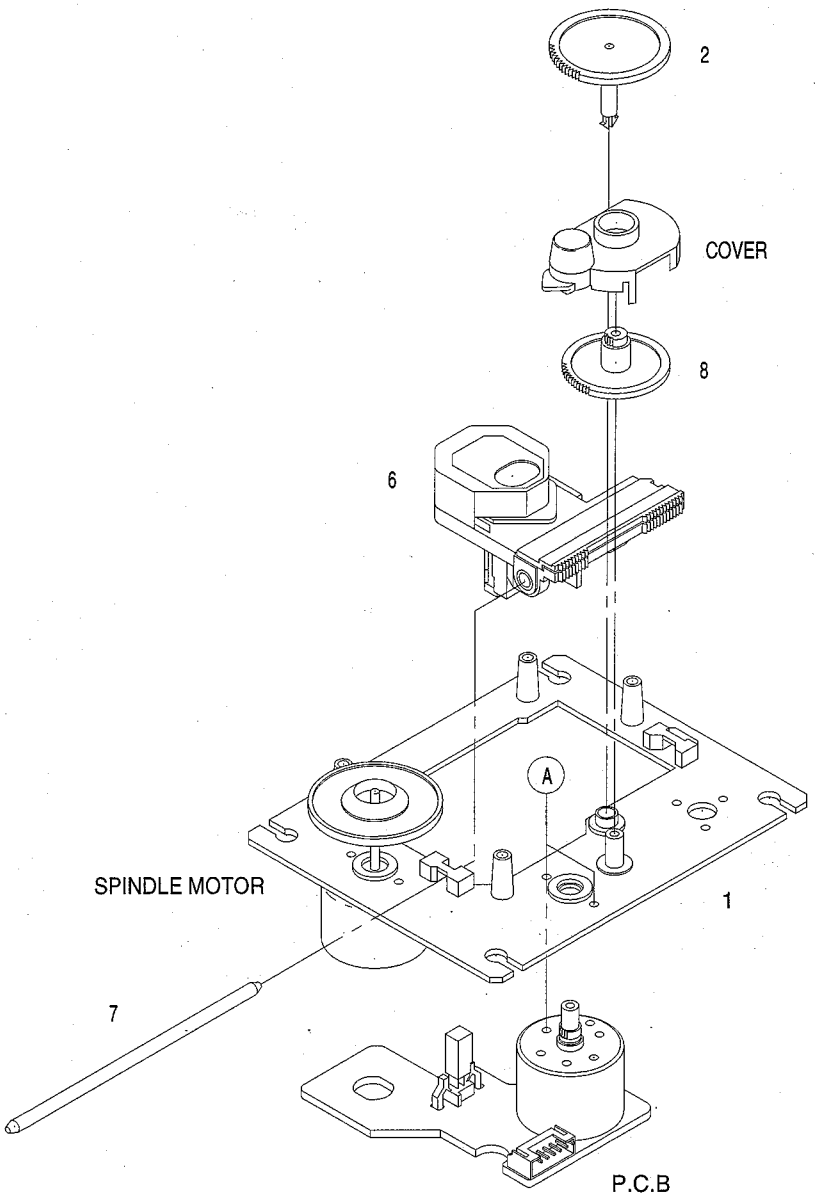


MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-239-210		PULLY,WORM N
2	81-ZG1-212-010		PULLY,LOAD MO
3	81-ZG1-239-010		S-SCREW,TT
4	81-ZG1-291-110		GEAR,TRAY RELAY NO3
5	81-ZG1-271-010		S-SCREW MECH REAR
6	81-ZG1-277-310		HLDR,MAGNET N
7	81-ZG1-255-110		PLATE,MAGNET MK2
8	83-ZG3-213-010		LVR,SW
9	84-ZG1-003-310		TRAY,NO2-B
10	87-045-364-010		MOTOR(BCH3B14)
11	84-ZG1-005-210		TURNTABLE,NO1(*)
12	84-ZG1-011-010		REFLECTOR,CD
13	84-ZG1-248-010		SPR-C,WORM
14	84-ZG1-208-210		LEVER,CAM
15	84-ZG1-209-010		BELT,SQ1.8-117.7
16	84-ZG1-211-010		SPR-E CAM S
17	84-ZG1-215-410		GEAR,MAIN CAM BLU
18	84-ZG1-216-310		SLIDE,MECHA CAM YEL
19	84-ZG1-205-110		GEAR,TRAY
20	84-ZG1-206-110		GEAR,RELAY
21	84-ZG1-207-010		PULLEY,RELAY
22	84-ZG1-221-010		GEAR,MAIN TT
23	84-ZG1-238-010		GEAR,WORM N
24	84-ZG1-224-010		LEVER,TT
25	84-ZG1-225-010		BELT,SQ1.0-63.3
26	84-ZG1-268-010		MAGNET,CLAMPER 97<Z4>
26	83-ZG3-602-010		RING,MAG<Z3>
27	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
28	84-ZG1-259-010		SPR-P,WORM
29	84-ZG1-244-310		CABI,OPTICAL
30	84-ZG1-261-010		LID,OPTICAL
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-251-070-410		U+2.6-3
C	87-067-981-010		BVT2+3-6 BLK

CD MECHANISM EXPLODED VIEW 1/1 (KSM-2131BAM)



CD MECHANISM PARTS LIST 1/1 (KSM-2131BAM)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	9X-262-587-110		MOTOR CHASSIS ASSY
2	92-626-907-010		GEAR(A)
6	98-848-379-310		OPTICAL PICK UP KSS-213B
7	92-626-908-010		SHAFT SLED
8	92-627-003-010		GEAR B
A	97-621-255-150		SCREW+P2-3

MODEL NO. 4ZG-1Z3/Z4 (D, DL, SH/D, DL, SH, MD)

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-446-010		C-IC,LA9241ML
	87-A20-459-010		C-IC,LC78622ED
	87-A20-445-010		IC,BA5936
TRANSISTOR			
	87-026-609-080		TR,KTA1266GR<DL>
	89-113-187-080		TR,2SA1318TU<D,4MD>
	87-026-295-080		C-TR,DTC144TK
	87-A30-076-080		C-TR,2SC3052F
	89-406-554-580		TR,2SD655DE
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-075-080		C-TR,2SA1235F
DIODE			
	87-002-564-080		DIODE,1SS133-RA
3CD C.B			
	84-ZG1-244-210		CABI,OPTICAL
C11	87-012-393-080		C-CAP,S 0.22-16 K W5R CM/CB
C12	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C13	87-016-369-080		C-CAP,S 0.033-25 K B
C14	87-A10-201-080		C-CAP,S 0.33-16 K B
C15	87-010-590-080		C-CAP,S 0.015-16 K R
C16	87-016-083-080		C-CAP,S 0.15-16 RK
C17	87-010-184-080		CHIP CAPACITOR 3300P(K)
C18	87-016-083-080		C-CAP,S 0.15-16 RK
C19	87-010-198-080		C-CAP,S 0.022-25 K B
C20	87-010-178-080		C-CAP,S 1000P-50 K B
C21	87-012-393-080		C-CAP,S 0.22-16 K W5R CM/CB
C22	87-016-083-080		C-CAP,S 0.15-16 K R
C23	87-010-197-080		C-CAP,S 0.01-25 K B
C24	87-010-186-080		C-CAP,S 4700P-50 K B
C25	87-010-400-040		CAP,E 0.47-50 SME
C26	87-010-322-080		C-CAP,S 100P-50 J CH
C27	87-010-382-040		CAP,E 22-25 SME
C28	87-010-545-040		CAP,E 0.22-50 SME
C29	87-010-184-080		C-CAP,S 3300P-50 K B
C30	87-010-145-080		C-CAP,S 1P-50 C CH GRM
C31	87-010-186-080		C-CAP,S 4700P-50 K B
C32	87-010-315-080		C-CAP,S 27P-50 CH
C33	87-016-081-080		C-CAP,S 0.1-16 K R
C35	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C37	87-010-405-080		CAP,E 10-50 M SME
C38	87-010-263-080		CAP,E 100-10 SME
C39	87-010-596-020		C-CAP,S 0.047-16 RK
C40	87-010-401-080		CAP,E 1-50 M SME
C41	87-010-805-080		CAP, S 1-16
C42	87-010-263-080		CAP,E 100-10 SME
C43	87-010-197-080		C-CAP,S 0.01-25 K B
C44	87-010-263-080		CAP,E 100-10 SME
C46	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C47	87-010-260-080		CAP,E 47-25 SME
C48	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C49	87-010-404-080		CAP,E 4.7-50 M SME
C50	87-010-197-080		C-CAP,S 0.01-25 K B
C51	87-010-263-040		CAP,E 100-10 M SME
C52	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C101	87-016-369-080		C-CAP,S 0.033-25 B K
C102	87-016-081-080		C-CAP,S 0.1-16 K R
C103	87-010-321-080		C-CAP,S 82P-50 J CH
C104	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C105	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C109	87-010-197-080		C-CAP,S 0.01-25 K B
C111	87-010-312-080		C-CAP,S 15P
C112	87-010-154-080		C-CAP,S 10P-50 D CH
C113	87-010-322-080		C-CAP,S 100P-50 J CH
C115	87-010-404-080		CAP,E 4.7-50 M SME
C116	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C117	87-010-263-040		CAP,E 100-10 M SME
C118	87-010-178-080		C-CAP,S 1000P-50 K B
C119	87-010-154-080		C-CAP,S 10P-50 D CH
C120	87-018-209-080		CAP, CER 0.1-50V<D,4MD>
C121	87-010-403-080		CAP,E 3.3-50 M SME
C122	87-010-403-080		CAP,E 3.3-50 M SME
C123	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C124	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C131	87-010-382-080		CAP,E 22-25 M SME
C191	87-010-263-040		CAP,E 100-10 M SME
C301	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C302	87-010-382-080		CAP,E 22-25 M SME
C303	87-010-260-080		CAP,E 47-25 SME
C501	87-010-381-080		CAP,E 1000-16 SMG
C502	87-010-197-080		C-CAP,S 0.01-25 K B
C504	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C505	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C506	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C507	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C509	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C510	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C603	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C610	87-010-405-080		CAP,E 10-50 M SME
C611	87-010-405-080		CAP,E 10-50 M SME
C701	87-010-405-080		CAP,E 10-50 M SME
C705	87-010-197-080		C-CAP,S 0.01-25 K B
C706	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C711	87-010-322-080		C-CAP,S 100P-50 J CH
C712	87-010-322-080		C-CAP,S 100P-50 J CH
C713	87-010-322-080		C-CAP,S 100P-50 J CH
C901	87-010-260-080		CAP,E 47-25 SME
C902	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
CON3	84-ZG1-648-010		CONN ASSY,6P<D,4MD>
CON3	84-ZG1-675-010		CONN ASSY,6P (GETA)<Z4>
FC1	85-NFT-611-110		FF-CABLE 16P-1.0
FC4	84-ZG1-614-210		F-CABLE,5P 1.25 210MM<D,4MD>
FC4	84-ZG1-672-010		F-CABLE,5P 1.25 210MM WHITE N<DL>
FC5	84-ZG1-630-010		CABLE FFC 6P-1.25<Z3>
L11	87-005-602-080		COIL,10UH J LAV35
L101	87-005-614-080		COIL,100UH
L102	87-005-602-080		COIL,10UH J LAV35
LED901	87-A40-123-010		LED,SLZ-8128A-01-B
M601	87-045-305-010		MOT,RF-500TB
SFR101	87-A90-787-080		SFR,100K H HOKU<DL>
SFR101	87-024-437-080		SFR100K,RH063EC<D,4MD>
SW701	87-036-109-010		SW,MICRO SPPB61
SW702	87-036-109-010		SW,MICRO SPPB61
X101	87-A70-046-010		VIB,XTAL 16.934MHZ
LED C.B			
LED701	87-A40-316-080		LED,SLR-56PCT31 GRN<D,4MD>
LED702	87-A40-268-080		LED,SLH-56DCT31 ORN<D,4MD>
LED702	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN<DL>
LED703	87-A40-268-080		LED,SLH-56DCT31 ORN<D,4MD>
LED703	87-A40-447-040		LED,SLP-6130C-81H-S-T1 ORN<DL>
LED704	87-A40-316-080		LED,SLR-56PCT31 GRN<D,4MD>
T-T C.B			
C401	87-018-214-080		CAP,TC U 0.1-50 Z F SA
M401	87-045-364-010		MOT,BCH3B
PS401	87-026-573-010		SNSR,PHOTO GP1S53
MOTOR C.B<Z4>			

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
M2	91-669-930-110		SLED MOTOR ASSY<Z4>
PIN3	91-564-722-110		CONNECTOR 6P<Z4>
SW1	91-572-085-110		LEAF SW<Z4>

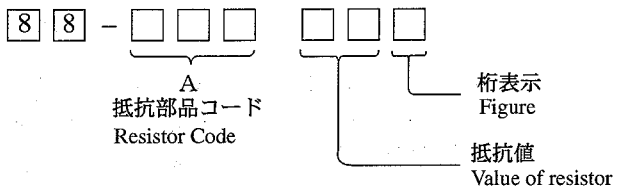
DRIVE C.B<Z3>

M1	87-045-358-010		MOT,RF-310TA 43<Z3>
M2	87-045-356-010		MOT,RF-310TA 30<Z3>
SW1	87-A90-042-010		SW,LEAF MSW-17310MVPO<Z3>

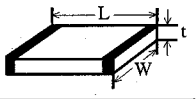
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm) 外形 / Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

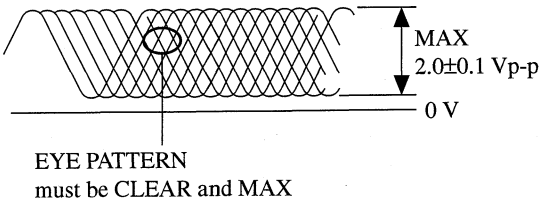
Refer to the following pages for the common section.

- IC BLOCK DIAGRAM ..... See page 7
- IC DESCRIPTION ..... See page 14
- TEST MODE ..... See page 18
- ELECTRICAL ADJUSTMENT ..... See page 19
- MECHANICAL EXPLODED VIEW 1/1 ..... See page 21
- MECHANICAL PARTS LIST 1/1 ..... See page 22

WAVE FORM

① IC11 Pin ㊶ (RFSM)

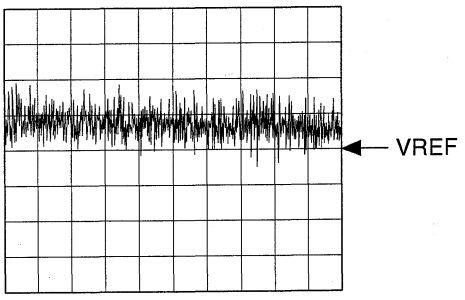
VOLT/DIV: 0.5V
TIME/DIV: 1μS



EYE PATTERN
must be CLEAR and MAX

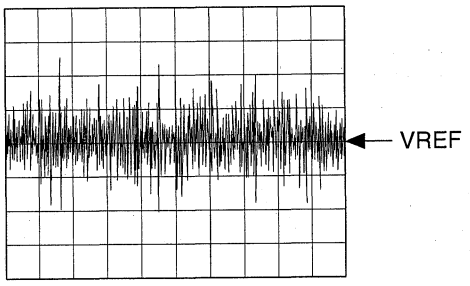
② IC11 Pin ⑯ (FD)

VOLT/DIV: 100mV
TIME/DIV: 1mS



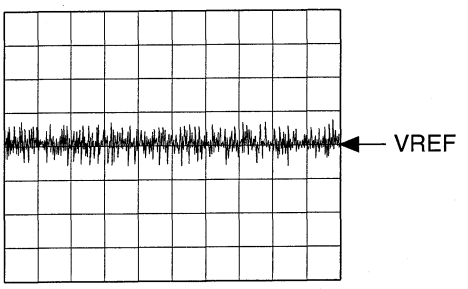
③ IC11 Pin ⑮ (TO)

VOLT/DIV:100mV
TIME/DIV: 1mS



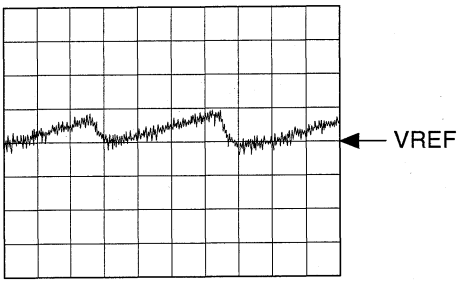
④ IC11 Pin ㉗ (SPD)

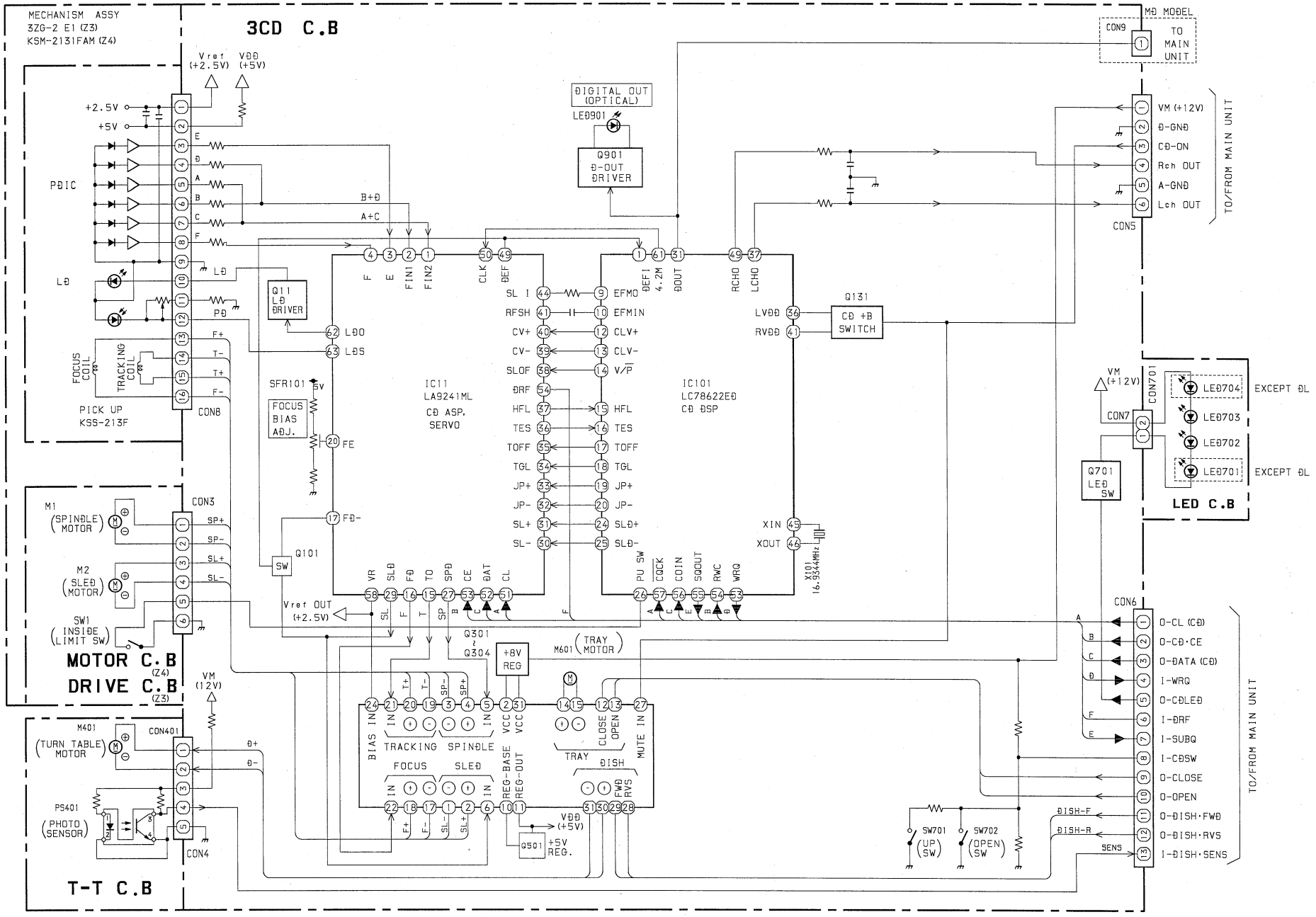
VOLT/DIV: 100mV
TIME/DIV: 1mS

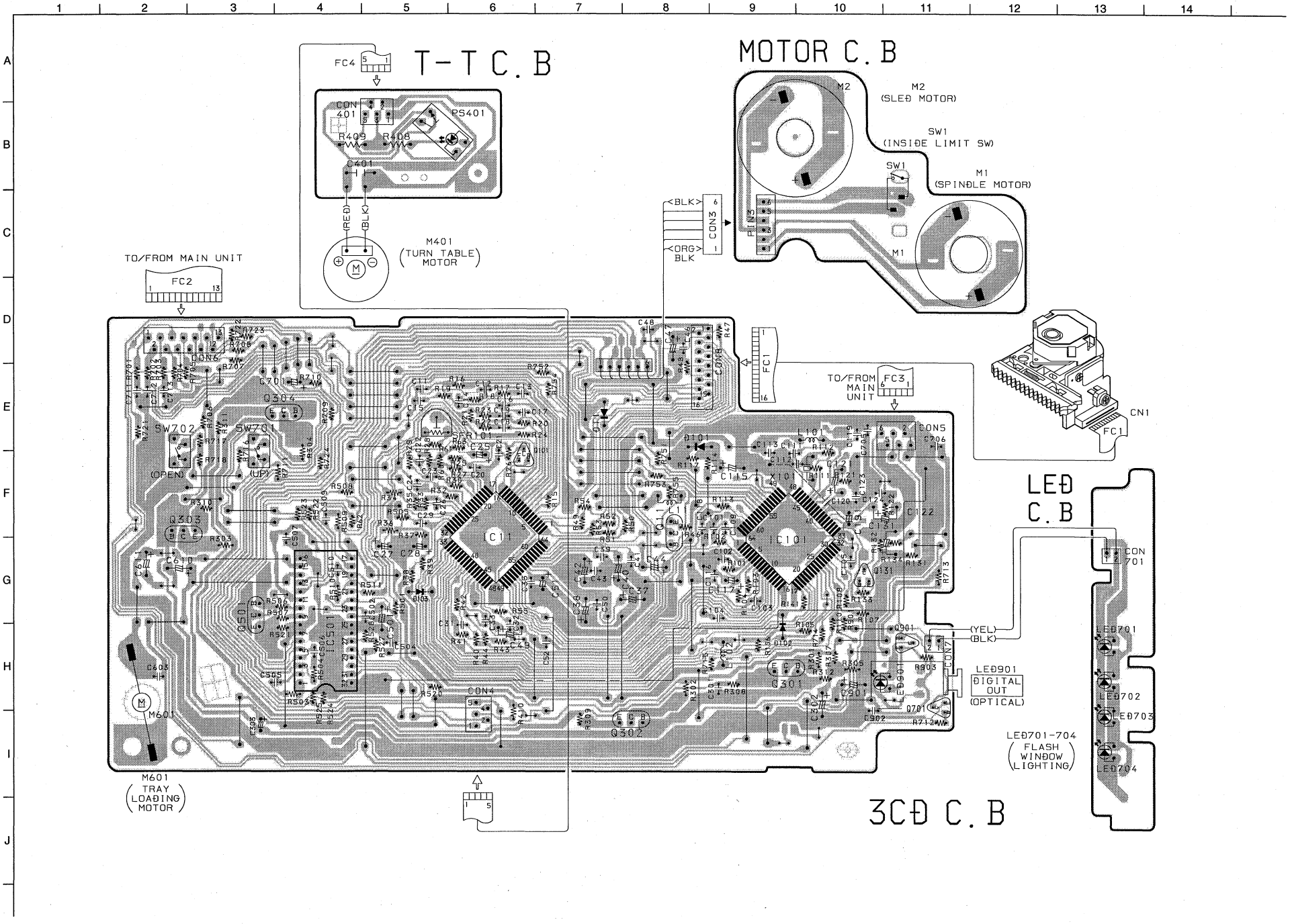


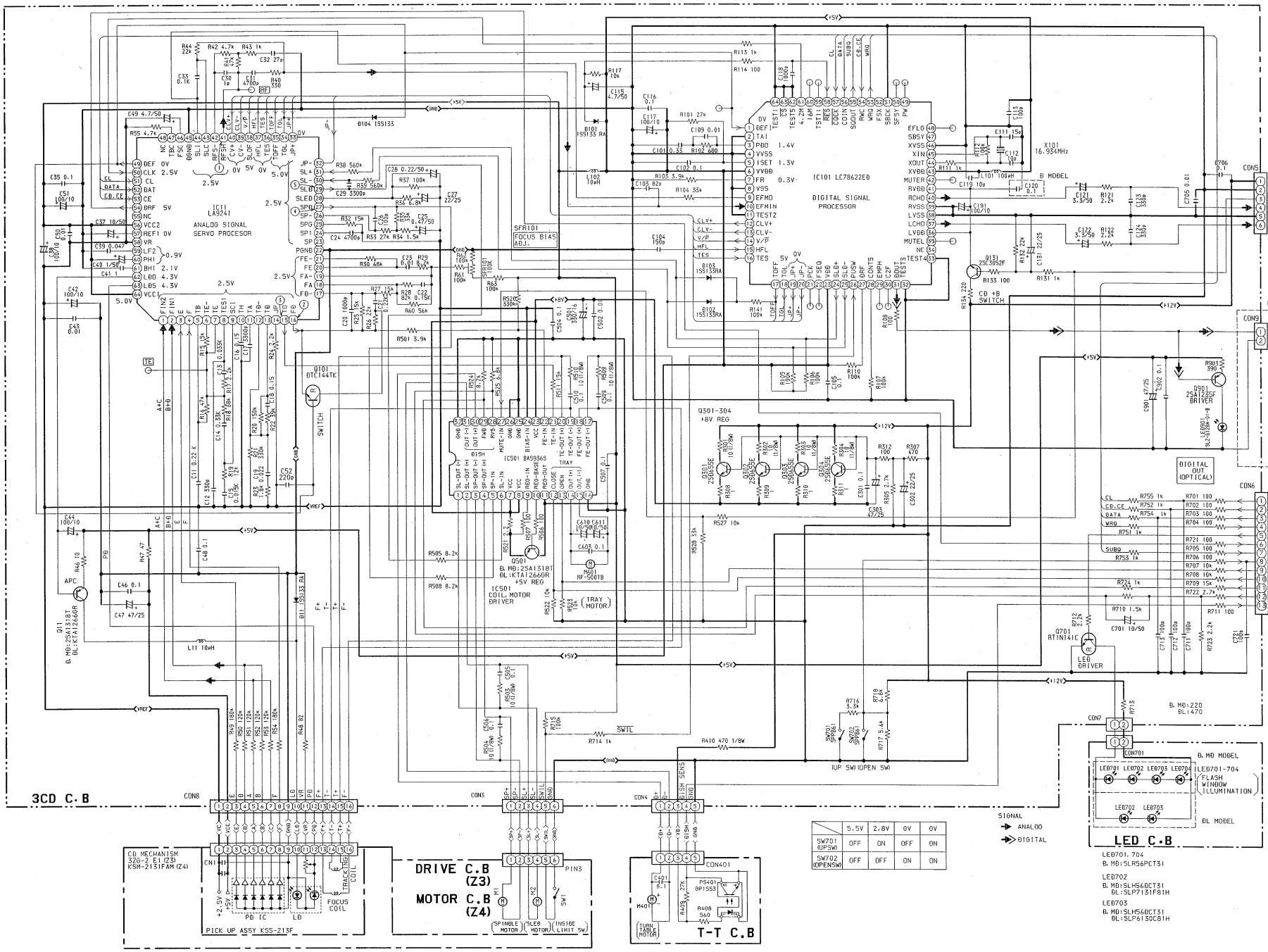
⑤ IC11 Pin ㉙ (SLD)

VOLT/DIV: 200mV
TIME/DIV: 2S



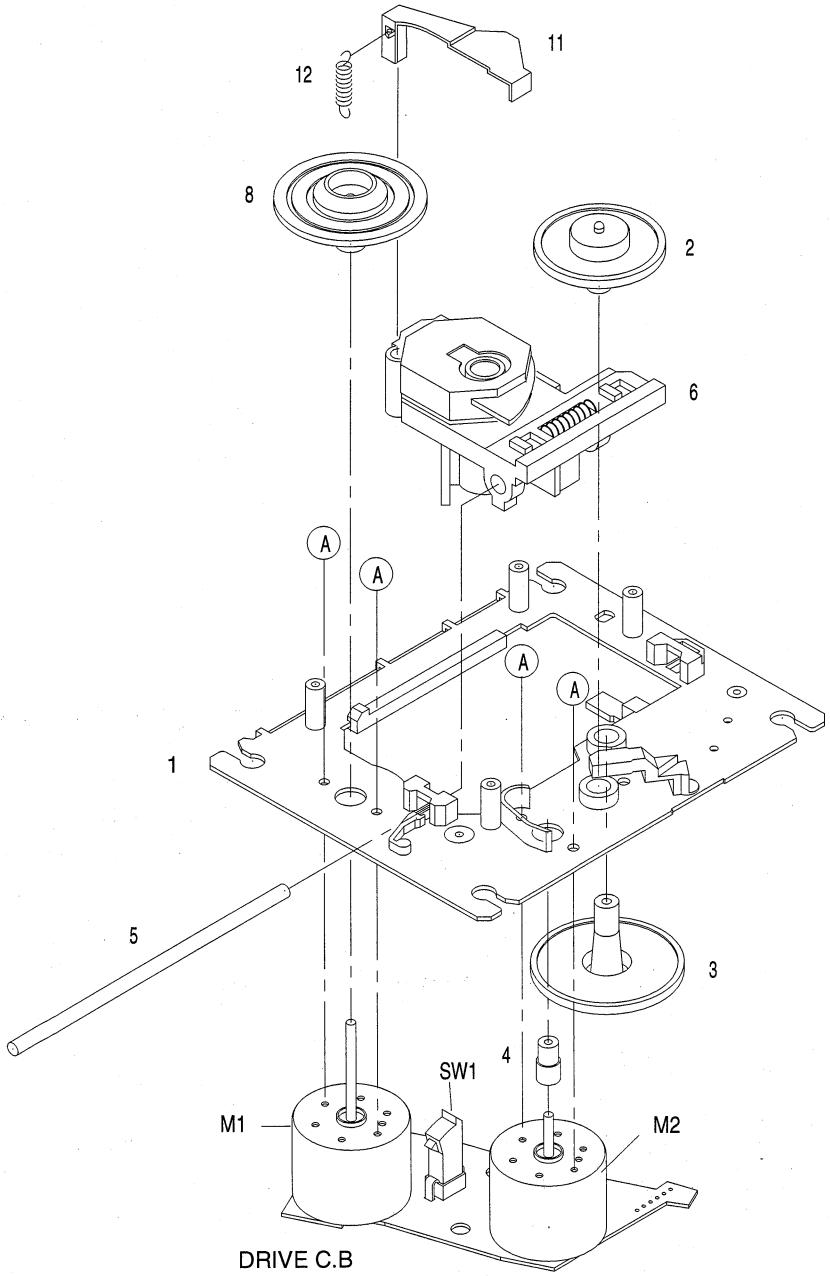

MECHANISM ASSY
3ZG-2 E1 (Z3)
KSM-2131FAM (Z4)
3CD C.B
MD MODEL
CON9
TO MAIN UNIT
DIGITAL OUT (OPTICAL)
LED901
Q901 D-OUT DRIVER
Vref (+2.5V)
VDD (+5V)
+2.5V
+5V
PDIC
LD
PD
FOCUS COIL
TRACKING COIL
PICK UP KSS-213F
CON8
Q11 LD DRIVER
SFR101
FOCUS BIAS ADJ.
IC11 LA9241ML CD ASP, SERVO
IC101 LC78622ED CD DSP
Q131 CD +B SWITCH
TO/FROM MAIN UNIT
CON5
VM (+12V)
D-GND
CD-ON
Rch OUT
A-GND
Lch OUT
LED C.B
CON701
CON7
LED704
LED703
LED702
LED701
EXCEPT DL
Q701 LED SW
M1 (SPINDLE MOTOR)
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
CON3
MOTOR C.B (Z4)
DRIVE C.B (Z3)
Q101 SW
Vref OUT (+2.5V)
Q301 ~ Q304
+8V REG
M601 (TRAY MOTOR)
TRACKING SPINDLE
FOCUS SLED
TRAY DISH
M401 (TURN TABLE MOTOR)
CON401
PS401 (PHOTO SENSOR)
CON4
T-T C.B
Q501 +5V REG.
SW701 (UP SW)
SW702 (OPEN SW)
CON6
O-CL (CD)
O-CD·CE
O-DATA (CD)
I-WRQ
O-CDLED
I-DRF
I-SUBQ
I-CDSW
O-CLOSE
O-OPEN
O-DISH·FWD
O-DISH·RVS
I-DISH·SENS
DISH-F
DISH-R
SENS
TO/FROM MAIN UNIT


T-T C.B
FC4
CON401
RS401
R409
R408
Q401
(RED)
(BLK)
M401
(TURN TABLE MOTOR)
MOTOR C.B
M2
M2
(SLED MOTOR)
SW1
(INSIDE LIMIT SW)
SW1
M1
(SPINDLE MOTOR)
M1
<BLK>
<ORG>
BLK
CON3
TO/FROM MAIN UNIT
FC2
FC1
TO/FROM MAIN UNIT
FC3
CN1
FC1
LED C.B
CON701
LED701
LED702
LED703
LED704
(YEL)
(BLK)
LED901
DIGITAL OUT
(OPTICAL)
LED701-704
(FLASH WINDOW LIGHTING)
SW702
SW701
(OPEN)
(UP)
M601
M601
(TRAY LOADING MOTOR)
3CD C.B



	5.5V	2.8V	0V	0V
SW701 (UPSW)	OFF	ON	OFF	ON
SW702 (OPENSW)	OFF	OFF	ON	ON

CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2 E1)

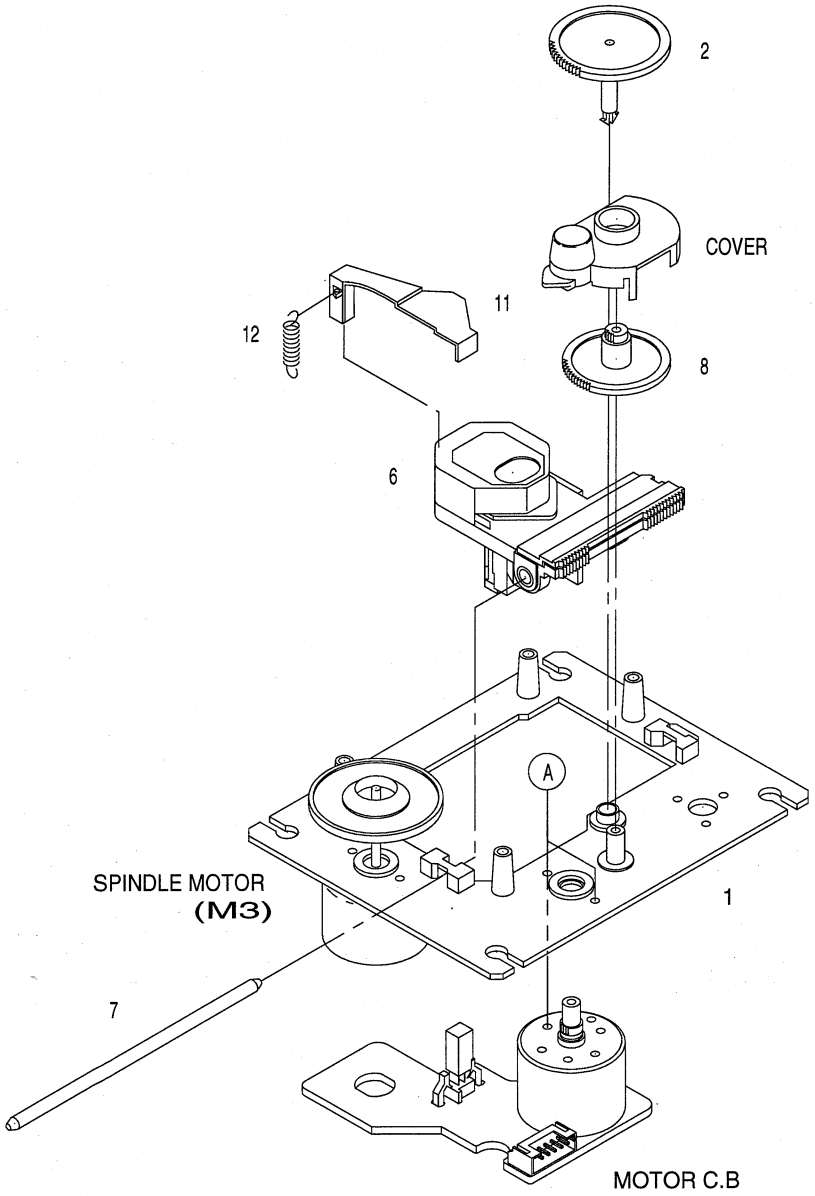


CD MECHANISM PARTS LIST 1/1 (3ZG-2 E1)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-243-110		CHAS ASSY,SHT
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR MOTOR 3
5	83-ZG2-240-010		SHAFT,SLIDE 3
6	87-A90-836-010		PICKUP,KSS-213F
8	83-ZG2-233-010		TURN TABLE,A5
11	83-ZG2-245-110		LEVER,SHUTTER
12	83-ZG2-250-010		SPR-E,SHT 2
A	87-261-032-210		SCREW V+2-3

CD MECHANISM EXPLODED VIEW 1/1 (KSM-2131 FAM)



CD MECHANISM PARTS LIST 1/1 (KSM-2131 FAM)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	9X-262-629-220		MOTOR CHASSIS ASSY(MB)(FR)
2	92-626-907-010		GEAR(A)(S)
6	87-A90-836-010		OPTICAL PICK UP KSS-213F
7	92-626-908-020		SHAFT SLED
8	92-627-003-010		GEAR(B)
11	92-646-697-020		LENS SHUTTER(F)
12	92-646-702-010		SPRIG EXTENSION
A	97-621-255-150		SCREW+P2-3

USE MODEL LIST

1. CX-SNS208
2. CX-NS203
3. CX-NS202
4. CX-NS205
5. CX-ZR220
6. CX-ZR222
7. CX-NH33MD
8. CX-SNH33MD
9. CX-SNH35MD
10. CX-SNH37MD
11. CX-SN3000M
12. CX-NS5LH
13. CX-NS307
14. CX-NS303
15. CX-NS306
16. CX-NA303
17. CX-SNS303
18. CX-SNS909

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

アイワ株式会社
AIWA CO.,LTD.

912162

Tokyo Japan

〒110-8710 東京都台東区池之端1-2-11 ☎03（3827）3111（代表）

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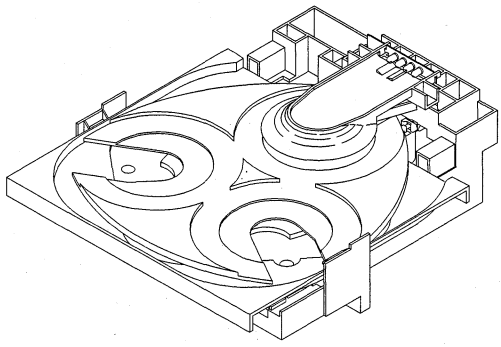
aiwa

aiwa SERVICE

4ZG-1Z3
4ZG-1Z4

SERVICE MANUAL



CD MECHANISM

• BASIC CD MECHANISM: KSM-2131BAM 3ZG-2 E1 KSM-2131FAM

• TYPE: English

SUPPLEMENT

BASIC NAME	DERIVATION NAME							
4ZG-1Z3	D	—	—	—	—	—	—	—
	D	DL	SH	R	—	—	—	—
4ZG-1Z4	D	DL	SH	MD	R	—	—	—

NOTE : 4ZG-1Z3 have the same BASIC NAME but use the different mechanisms.

■ This Service Manual has various derivation.Derivation name is indicated by the Service Manual for each model.

■ This Service Manual contains information about the difference between 4ZG-1Z3/ 4ZG-1Z4. If requiring the other information ,see Service Manual of 4ZG-1Z3/ 4ZG-1Z4 (S/M Code No.09-983-249-3OT)

S/M Code No. 09-983-249-3S2

This is the SERVICE MANUAL for the BASIC CD MECHANISM of BASIC NAME: 4ZG-1. This BASIC NAME includes the following models as shown under the SUFFIX name: DERIVATION NAME. Please use this manual with the separate SERVICE MANUAL for DERIVATION NAME.

BASIC CD MECHANISM: 4ZG-1Z3 DSH

SUFFIX
(DERIVATION NAME)

BASIC NAME: 4ZG-1Z3 (THE 3rd SANYO IC MODEL)
4ZG-1Z4 (THE 4th SANYO IC MODEL)

BASIC NAME	DERIVATION NAME							
4ZG-1Z3	D	—	—	—	—	—	—	—
	D	DL	SH	R	—	—	—	—
4ZG-1Z4	D	DL	SH	MD	R	—	—	—

NOTE : 4ZG-1Z3 have the same BASIC NAME but use the different mechanisms.

DERIVATION NAME

D: Digital output function
DL: Digital output function (CD WINDOW Flash function LOW END Type)
MD: Digital output for Mini Disc
SH: Pick up equipped with shutter
R: Defference of tray

MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-239-210	0E	PULLY,WORM N
2	81-ZG1-212-010	0E	PULLY,LOAD MO
3	81-ZG1-239-010	0E	S-SCREW,TT
4	81-ZG1-291-110	0E	GEAR,TRAY RELAY NO3
5	81-ZG1-271-010	0E	S-SCREW MECH REAR
6	81-ZG1-277-310	1A	HLDR,MAGNET N
7	81-ZG1-255-110	0E	PLATE,MAGNET MK2
8	83-ZG3-213-010	0E	LVR,SW
9	84-ZG1-008-110	1H	TRAY,NO3
10	87-045-364-010	1F	MOTOR(BCH3B14)
11	84-ZG1-005-210	1H	TURNTABLE,NO1(*)
12	84-ZG1-011-010	1A	REFLECTOR,CD
13	84-ZG1-248-010	0E	SPR-C,WORM
14	84-ZG1-208-210	0E	LEVER,CAM
15	84-ZG1-209-010	0E	BELT,SQ1.8-117.7
16	84-ZG1-211-010	0E	SPR-E CAM S
17	84-ZG1-215-410	1B	GEAR,MAIN CAM BLU
18	84-ZG1-216-310	1A	SLIDE,MECHA CAM YEL
19	84-ZG1-205-110	1A	GEAR,TRAY
20	84-ZG1-206-110	0E	GEAR,RELAY
21	84-ZG1-207-010	0E	PULLEY,RELAY
22	84-ZG1-221-010	1B	GEAR,MAIN TT
23	84-ZG1-238-010	1A	GEAR,WORM N
24	84-ZG1-224-010	0E	LEVER,TT
25	84-ZG1-225-010	0E	BELT,SQ1.0-63.3
26	84-ZG1-268-010	0E	MAGNET,CLAMPER 97<Z4>
26	83-ZG3-602-010	1A	RING,MAG<Z3>
27	87-045-305-010	1F	MOTOR, RF-500TB DC-5V (2MA)
28	84-ZG1-259-010	0E	SPR-P,WORM
29	84-ZG1-244-310	1A	CABI,OPTICAL
30	84-ZG1-261-010	0E	LID,OPTICAL
A	87-067-703-010	0E	TAPPING SCREW, BVT2+3-10
B	87-251-070-410	0E	U+2.6-3
C	87-067-981-010	0E	BVT2+3-6 BLK

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

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